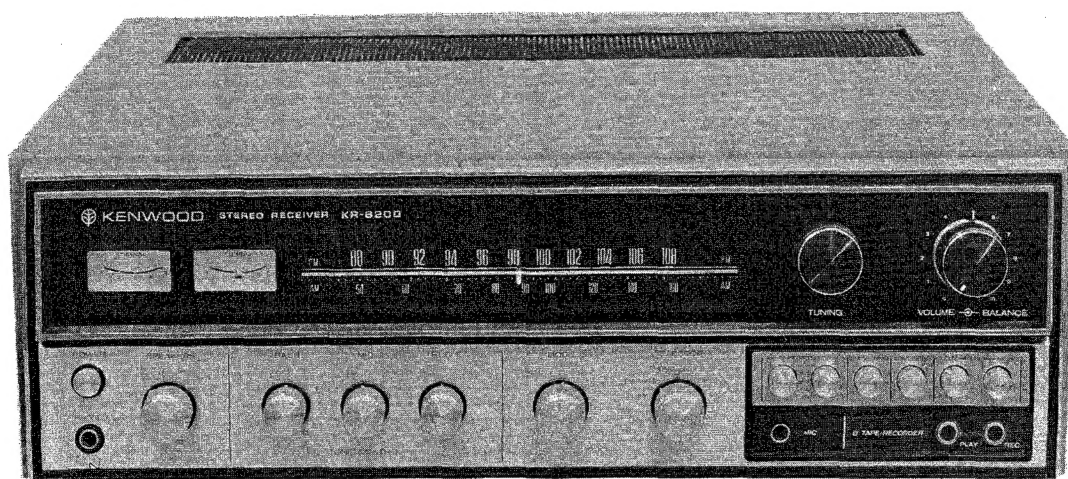


KENWOOD
HI/FI STEREO COMPONENTS

SERVICE MANUAL

KR-6200



STEREO RECEIVER

SPECIFICATIONS

FM TUNER SECTION

Antenna Impedance	300/75 Ω
Usable Sensitivity (IHF)	1.7 μ V
Harmonic Distortion (at 400Hz 100% Mod.)	
MONO	0.5%
STEREO	0.6%
Signal to Noise Ratio	66 dB
Capture Ratio	1.5 dB
Selectivity (Alt. CH.) (IHF)	65 dB
Image Rejection	80 dB
IF Rejection	100 dB
Spurious Signal Rejection	100 dB
AM Suppression	70 dB
Stereo Separation (at 1kHz)	40 dB
(at 10kHz)	25 dB
Sub Carrier Suppression	60 dB
Muting Level	10 μ V
Quieting Slope	52 dB 5 μ V
	59 dB 10 μ V
	66 dB 50 μ V
Frequency Response	20 ~ 15 kHz +0.5 dB, -2 dB,
Front End	2 FETs (1 DG), 4 Gang
IF Stage	1 IC, 3 element mechanical filters

AM TUNER SECTION

Antenna	Built in ferrite bar antenna and external antenna terminal.
Usable Sensitivity (IHF)	15 μ V
Signal to Noise Ratio	45 dB
Selectivity (IHF)	35 dB
Image Rejection	70 dB
IF Rejection	70 dB
Front End	3 Gang
IF Stage	2 Stages

AMPLIFIER SECTION

Dynamic Power Output (IHF)	
Both CH. 4 Ω 1kHz	240 watts
Both CH. 8 Ω 1kHz	190 watts
Continuous Power Output	
Each CH. 4 Ω 1kHz	80/80 watts
Each CH. 8 Ω 1kHz	60/60 watts
Both CH. 4 Ω 1kHz	60/60 watts
Both CH. 8 Ω 1kHz	50/50 watts
Both CH. 8 Ω 20 ~ 20kHz	45/45 watts
Harmonic Distortion (at rated)	0.5%
(at -3 dB rated)	0.1%
I.M. Distortion (at rated)	0.5%
(at -3 dB rated)	0.2%
Frequency Response	
(High Level Input)	20 ~ 40 kHz \pm 2 dB

Power Band Width (IHF)	13 ~ 30,000 Hz
Input Sensitivity	
PHONO	2.5 mV 50 k Ω
MIC	3 mV 50 k Ω
AUX 1	180 mV 50 k Ω
AUX 2	180 mV 50 k Ω
TAPE PLAY A	180 mV 50 k Ω
TAPE PLAY B	180 mV 50 k Ω
Recording Output	
TAPE REC A	180 mV
TAPE REC B	180 mV
DIN	36 mV
Damping Factor (at 8 Ω)	50
Hum and Noise	
PHONO	65 dB
MIC	55 dB
AUX 1	75 dB
AUX 2	75 dB
TAPE PLAY A	75 dB
TAPE PLAY B	75 dB
Speaker Impedance	4 ~ 16 Ω
Tone Control	
BASS (at 100Hz)	\pm 12 dB
MID (at 1kHz)	\pm 8 dB
TREBLE (at 10kHz)	\pm 12 dB
Filter	
LOW (at 100Hz)	-7 dB
HIGH (at 10kHz)	-10 dB
Loudness Control (-30 dB)	
at 100Hz	+10 dB
at 10kHz	+5 dB

GENERAL

Switches	
SPEAKERS	OFF-A-B-C-A+B-A+C
SELECTOR	AM-FM-PHONO-AUX 1-AUX 2-MIC
MODE	LEFT-RIGHT-STEREO-REV-MIX
OTHERS	TAPE MONITOR A, TAPE MONITOR B, LOW-HIGH FILTER, FM MUTING, LOUDNESS, MIC jack
AC Outlets	
SWITCHED	2
UNSWITCHED	1
Semiconductors	2 FETs, 1 IC, 54 Transistors, 43 Diodes
Power Consumption	
at full power	320 watts
at no signal	40 watts
Dimensions	17-1/8"(W) x 5-3/4"(H) x 14"(D)
Weight	29.0 lbs.
Walnut Cabinet (included in price)	YES

TROUBLE SHOOTING

Symptom	CHECK Unit (Page)					
	R.f. (4)	I.f. (4 ~ 5)	MPX (5)	Pre (6)	Tone (6)	Main (6 ~ 7)
No sound				●	●	●
Distortion		●				●
Noise		●		●	●	●
Dynamic range				●		
Hum				●	●	
Crosstalk				●		
Shifting voltage of output terminal						●
Oscillation						●
Heated transistor						●
Tone					●	
Poor output of low frequency in PHONO position				●		
Protection						●
Out of dial calibrations	●					
Not light stereo indicator		●	●			
Drift	●					
Separation			●			
Interference	●	●				
Carrier-leak			●			
Sensitivity	●	●				
Muting		●				
Meter		●				
Not receive f.m. broadcastings	●	●				
Not receive a.m. broadcastings		●				

Note: This troubleshooting has not power supply, sub unit and etc..

■ R.f. Unit (X01-1030-10)

Complaint	Possible cause	Repairs
Not receive f.m. broadcastings	Poor connection of supply voltage line.	Check the terminal No. 3.
	Faulty transistor Qa3.	Check and replace.
	Poor adjustment of trimmer CTas.	Readjustment.
Poor sensitivity	Poor adjustment.	Readjustment.
	Faulty FETs Qa1, 2.	Check and replace.
	Poor connection of supply voltage line.	Check coils Las, 6.
Out of calibrations	Poor adjustment of local oscillation.	Readjustment.
Drift	Faulty trimmer CTa4 of local oscillator.	Check and replace.
Interference	Poor adjustment.	Readjustment

■ I.f. Unit (X02-1020-10)

Not light stereo indicator	Poor adjustment of coil Lb6 and potentiometer VRb3.	Readjustment
	Faulty transistors Qb7, 8 and diode Db11.	Check and replace.
	Faulty or poor adjustment of MPX unit.	Check and replace, or readjust
Not operate f.m. muting	Faulty transistors Qb9, 10 and diode Db12.	Check and replace.
Not receive broadcastings with muting off (but signal meter's pointer swings)	Faulty transistor Qb10.	Check collector of Qb10 to be 0V under operating.
	Faulty IC ICb1.	Check and replace.
Distortion	Faulty diodes Db4, 5 and coil Lb3.	Check and replace.
	Poor adjustment of coil Lb3.	Readjustment
Poor f.m. sensitivity. (but signal meter's pointer swings)	Faulty transistors Qb4, 5, and IC ICb1.	Check and replace.
(Not meter's pointer swings)	Faulty transistors Qb1 ~ 3.	Check and replace.

■ I.f. Unit (X02-1020-10)

Complaint	Possible cause	Repairs
Not receive f.m. broad-castings. (but singal meter's pointer swings)	Faulty transistor Qb _{4, 5} , and IC ICb ₁ .	Check and replace.
(But meter's pointer not swing)	Poor connection of supply voltage line.	Check the terminal No. 6.
Not receive (a.m.)	Faulty transistors Qb _{11 ~ 15} .	Check and replace.
Noise (a.m.)	Faulty variable capacitor.	Check it.
Interference (a.m.)	Faulty trans. and coils Lb _{11 ~ 15} .	Check and replace.
Distortion (a.m.)	Faulty diodes Db _{13, 14} .	Check and replace.
Poor sensitivity (a.m.)	Faulty transistors Qb _{11 ~ 14} .	Check and replace.

■ MPX Unit (X04-1010-10)

Not light stereo indicator	Faulty pilot lamp.	Check and replace.
	Poor i.f. stage.	Readjustment
	Poor adjustment of potentiometer VRc ₂ .	Readjustment
	Faulty transistors Qc _{2, 4 ~ 7} .	Check and replace.
Not separate (but stereo indicator lights)	Faulty of transistor Qc ₃ and coil Lc ₄ .	Check and replace.
Poor separation	Poor adjustment of coils Lc _{2 ~ 4} and potentiometer VRc ₁ .	Readjustment
	Faulty diodes Dc _{3 ~ 10} .	Check and replace.
Carrier-leak	Faulty diodes Dc _{3 ~ 10} .	Check and replace.
	Faulty capacitor Cc _{9, 10} .	Check and replace.
	Faulty low-pass filter Lc ₅ .	Check and replace.

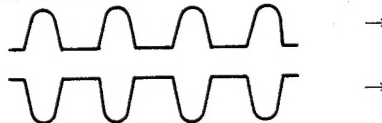
■ Preamp Unit (X08-1080-10)

Complaint	Possible cause	Repairs
No sound	Faulty transistors Qj1 ~ 4.	Check and replace.
Noise	Faulty transistors Qj1, 2, resistors Rjs, 6, 25, 26, and capacitors Cj1, 2, 21, 22.	Check and replace.
Dynamic range	Faulty transistors Qj1, 2 and capacitors Cj1, 2.	Check and replace.
Hum	Faulty capacitor Cj23, 24.	Check and replace.
Poor output of low frequency at phono position	Faulty capacitor Cj15, 16, 19, 20.	Check and replace.

■ Toneamp Unit (X11-0007-11)

No sound	Faulty transistors Qi1 ~ 4.	Check and replace.
Boost and cut	Faulty potentiometers VRi1 ~ 3 and transistors Qi3, 4.	Check and replace.
Noise	Faulty transistors Qi1 ~ 4, resistors Ri27, 28, and capacitors Ci1 ~ 4, 15, 16, 21, 22.	Check and replace.

■ Mainamp Unit (X07-1110-10)

No sound. (protection relay is off.)	In case of operating protections, faulty transistors Qe1 ~ 10.	Check and replace (replacement order, first Qe7 ~ 10, second Qes, 6, third Qe1 ~ 4).
	Faulty resistors Rq2, 3.	Check and replace.
	In case of not operating protections, faulty transistors Qe13 ~ 15.	Check and replace.
Distortion	Faulty resistors Rq1 ~ 4.	Check and replace.
	Output waveform.	Check resistors Rq3, 4
		Check resistors Rq1, 2
(Crossover distortion.)	Faulty varistors D1, 2, and potentiometers VRe1, 2.	Check and replace.
Hum	Faulty capacitor Ce16.	Check and replace.
Noise	Faulty transistors Qe1 ~ 4, diode De1 and capacitors Ce3, 4, 7, 8.	Check and replace.
Shock noise	Faulty capacitor Ce18 and transistors Qe14, 15.	Check and replace.

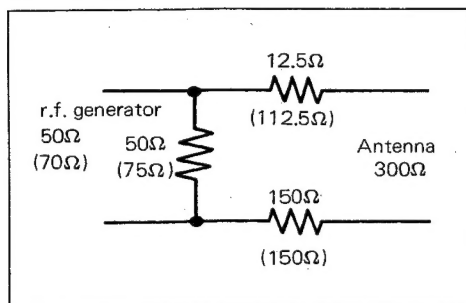
■ Mainamp Unit (X07-1110-10)

Complaint	Possible cause	Repairs
Shifting voltage of output terminal	Faulty transistors Qe1 ~ 4, and diode De1.	Check and replace.
Oscillation	Faulty capacitor Ce1, 2, 9, 10, Cq1, 2, and resistor Rqs, 6.	Check and replace.
Heated power transistor	Faulty potentiometers VRe1, 2, and varistors D1, 2.	Check and replace.
Heated drive stage transistor	Faulty resistors Rq1 ~ 4.	Check and replace.
Misoperation of protection circuit	Faulty diodes De2 ~ 4, and transistors Qe11, 12.	Check and replace.

ADJUSTMENT

[BEFORE ADJUSTMENT]

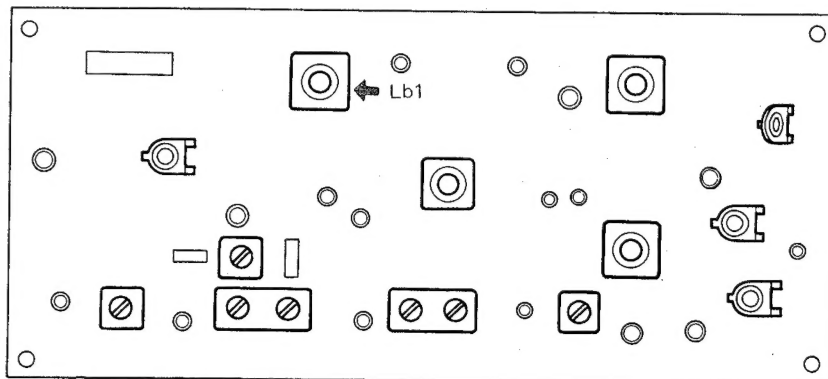
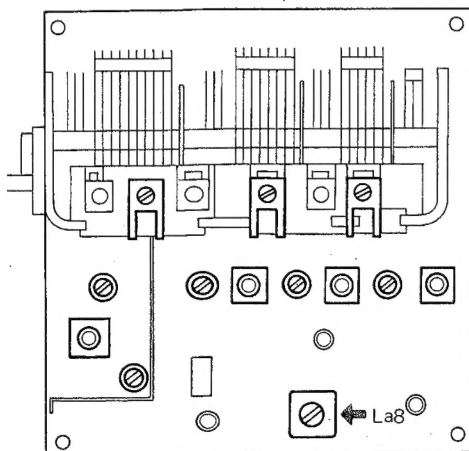
- * Tuning dial is set to the proper point corresponding to no radio stations.
- * The sweep and the r.f. generator are set to the minimum response on oscilloscope as possible.
- * The oscilloscope is connected across the input terminal in series through a resistor 1000-ohm except the recording jack and TP2.
- * Connecting the r.f. generator to the antenna terminal use the dummy antenna . . . refer to figure.
- * Use the insulated screwdriver adjusting the i.f.t.
- * SELECTOR is FM AUTO position.
- * FM MUTING is OFF position except necessity.
- * Test point shown in the schematic diagram.



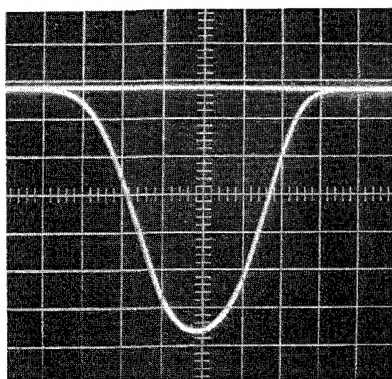
▲ Dummy antenna

[ADJUSTING FM-IFT]

1. Connect the sweep generator being set to 10.7 MHz to test point 1 (TP1) through a capacitor 3 pF.
2. Connect the oscilloscope to test point 2.
3. Adjust i.f. trans La8, Lb1 so that output is the best.

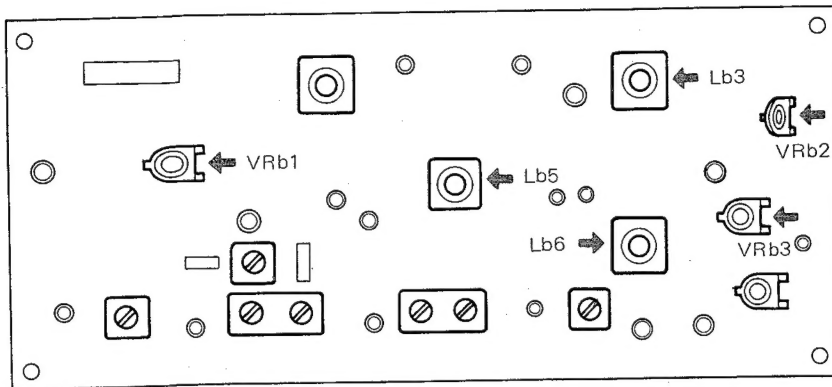


▼ Waveform of test point 2



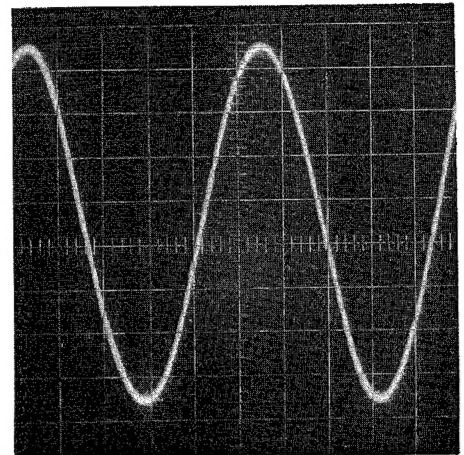
[ADJUSTING DISCRIMINATOR]

1. With no test equipments, adjust the secondary (top) of discriminator coil Lb3 so that tuning meter's pointer is between the center zone.
2. Connect d.c. voltmeter to test point 3.
3. Connect the r.f. generator being set 98 MHz, no modulation, antenna input of $5 \sim 7 \mu\text{V}$ to antenna terminal.
4. Adjust trigger coil Lb6 so that voltmeter is max.
5. Adjust meter coil Lb5 so that signal meter is max.
6. Set the output of r.f. generator so that voltmeter is 2.5V at test point 3.
7. Adjust the potentiometer VRb3 so that voltmeter is 2V at test point 3.
8. Switch the output of r.f. generator being set antenna input of $7 \mu\text{V}$ to antenna terminal.
9. Adjust the potentiometer VRb1 so that voltmeter is 1.4V at test point 3.
10. Connect the r.f. generator being set 98 MHz, modulation of 400 Hz, deviation of 75 kHz, to antenna terminal and the oscilloscope and VTVM to REC jack.
11. Adjust the primary (bottom) of discriminator coil Lb3 so that distortion is min.
12. Adjust the potentiometer VRb2 so that voltmeter is 1V at REC jack.

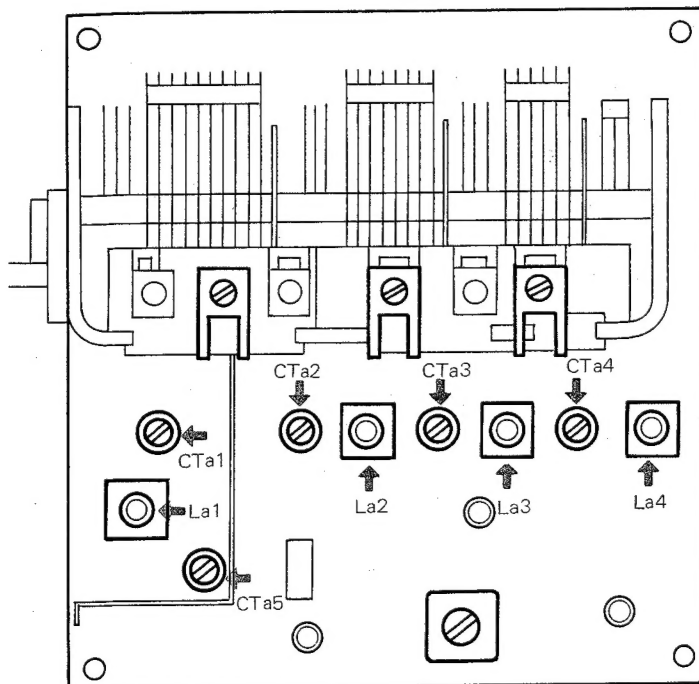


[ADJUSTING TRACKING]

1. Connect the r.f. generator to antenna terminal through a dummy antenna.
 2. Set the r.f. generator to 90 MHz, the modulation of 400 Hz, the deviation of 75 kHz, and the input of $10 \mu\text{V}$.
 3. Connect the VTVM to the recording jack (REC jack).
 4. Meet the dial pointer to 90 MHz on the dial calibrations.
 5. Adjust the core of r.f. trans La1 ~ 3 and local oscillator coil La4 so that the output is the maximum.
-
1. Set the r.f. generator to 106 MHz, the modulation of 400 Hz, the deviation of 75 kHz and the input of $10 \mu\text{V}$.
 2. Meet the dial pointer to 106 MHz on the dial calibrations.
 3. Adjust the trimmer CTa1 ~ 4 so that the output is the maximum.
- * If there is internal oscillation, adjust the trimmer CTa5.

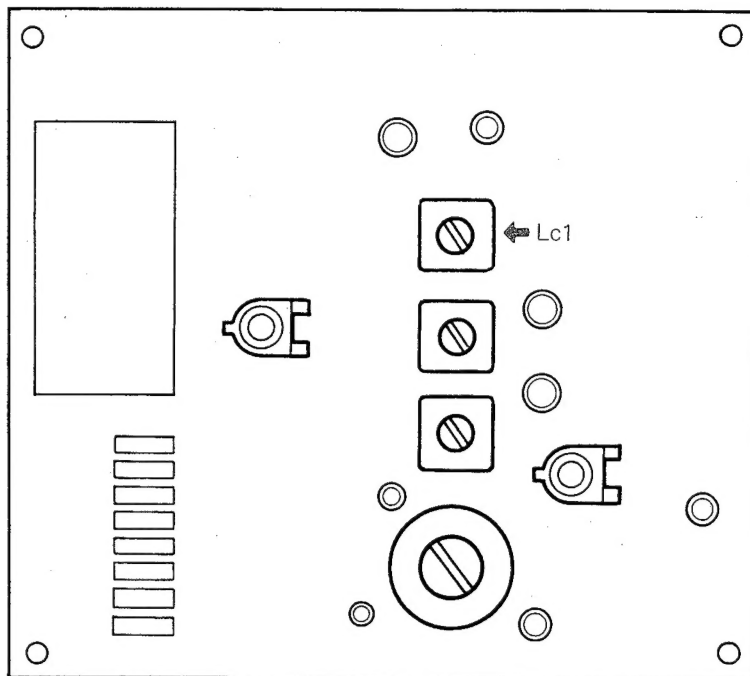


▲ Waveform of Rec jack



[ADJUSTING SCA FILTER]

1. Connect the audio generator being set to 67 kHz to the test point 4.
2. Connect the VTVM to the test point 5.
3. Adjust the core of Lc1 so that the output is the minimum.

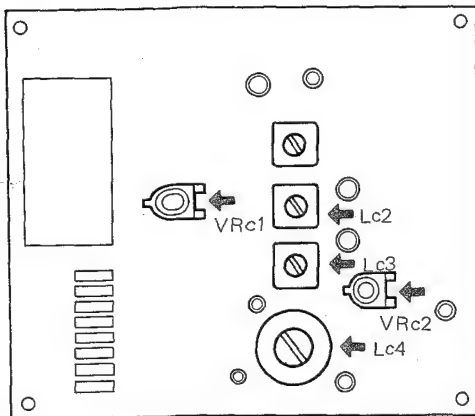


[ADJUSTING MPX]

1. Set the MPX generator to the following.

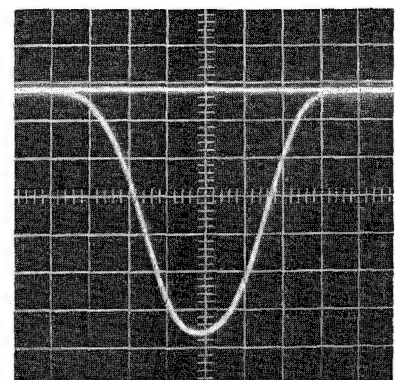
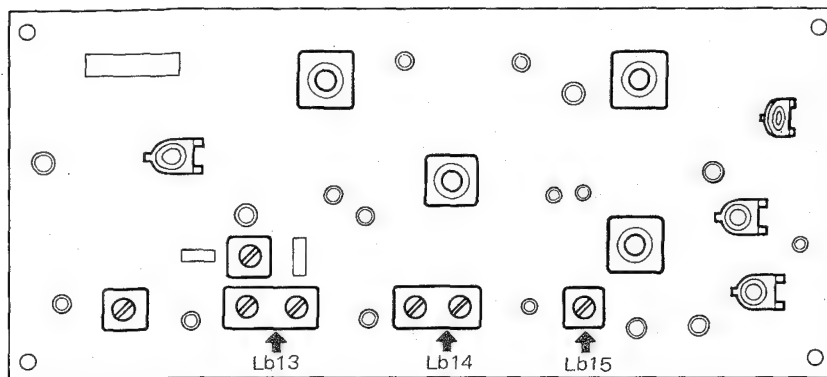
SELECTOR	→ A + B	PHASE	→ NORMAL
MODULATION	→ 400 Hz	DEVIATION	→ 67.5 kHz
2. Connect the r.f. generator to the antenna terminal and the VTVM to the test point 6.
3. Adjust the core of Lc2 ~ 4 so that the output is the maximum.
4. Switch the selector of MPX generator of A - B (reverse).
5. Remove the VTVM to the REC jack.
6. Adjust the core of Lc4 so that the output is the best.
7. Switch the selector and deviation of the MPX generator to A + B and 40 kHz.
8. Adjust the potentiometer VRc2 so that stereo indicator is on.
9. Switch the selector of the MPX generator to A (R).
10. Adjust the potentiometer VRc1 so that the output is the minimum.
11. Switch the selector of the MPX generator to B (L).
12. Adjust the potentiometer VRc1 so that the output is the minimum.

Note: In case of difference between right and left set the potentiometer (VRc1) to average.



[ADJUSTING AM-IFT]

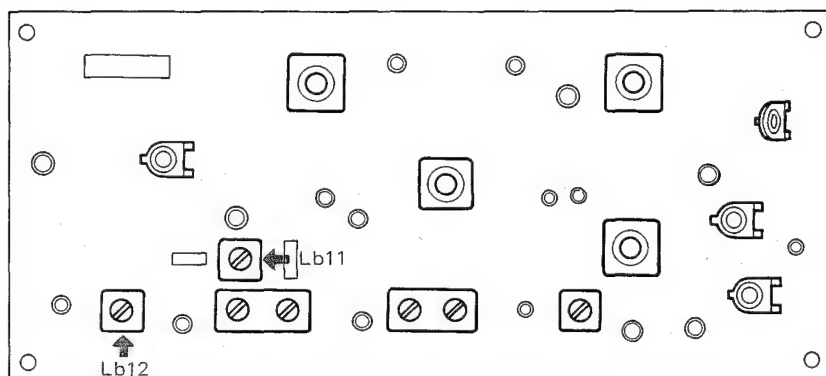
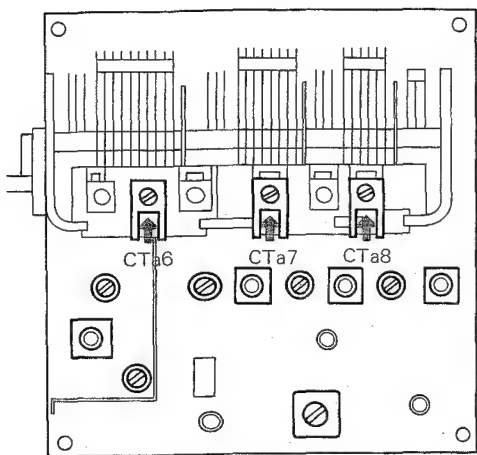
1. Connect the sweep generator being set to 455 kHz to antenna terminal.
2. Connect the oscilloscope to the test point 7.
3. Adjust the core of i.f. trans Lb13 ~ 15 so that the output is the best.



▲ Waveform of test point 7

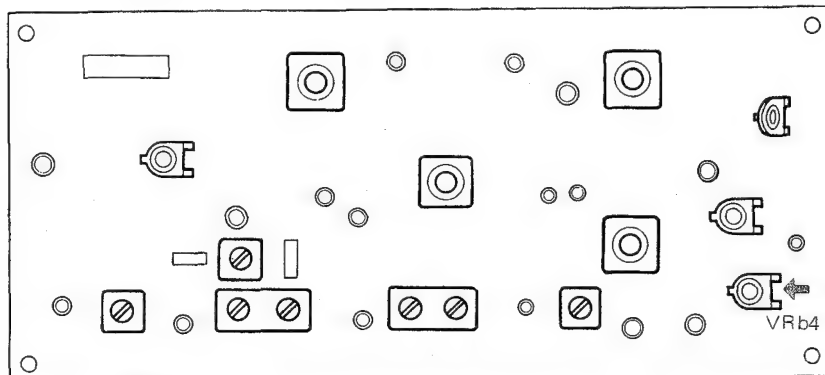
[ADJUSTING TRACKING]

1. Connect the r.f. generator being set to 600 kHz, modulation of 30% at 400 Hz to antenna terminal.
 2. Connect the VTVM to the REC jack.
 3. Meet the dial pointer to the 600 kHz on the dial calibrations.
 4. Adjust the osc-trans. Lb11 r.f.-trans. Lb12 and ferrite antenna so that the output is the max.
-
1. Connect the r.f. generator being set to 1,400 kHz, modulation of 30% at 400 Hz to antenna terminal.
 2. Connect the VTVM to the REC jack.
 3. Meet the dial pointer to the 1,400 kHz on the dial calibrations.
 4. Adjust the trimmer CTA6 ~ 8 so that the output is the max.



[ADJUSTING METER]

1. Connect the r.f. generator to antenna terminal.
2. Meet the dial pointer to the 1,000 kHz on the dial calibrations.
3. Adjust the potentiometer (VRb4) so that the signal meter indicates "5".



AUDIO ADJUSTMENT

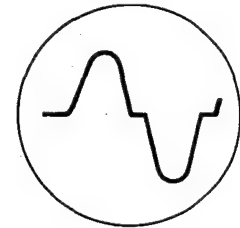
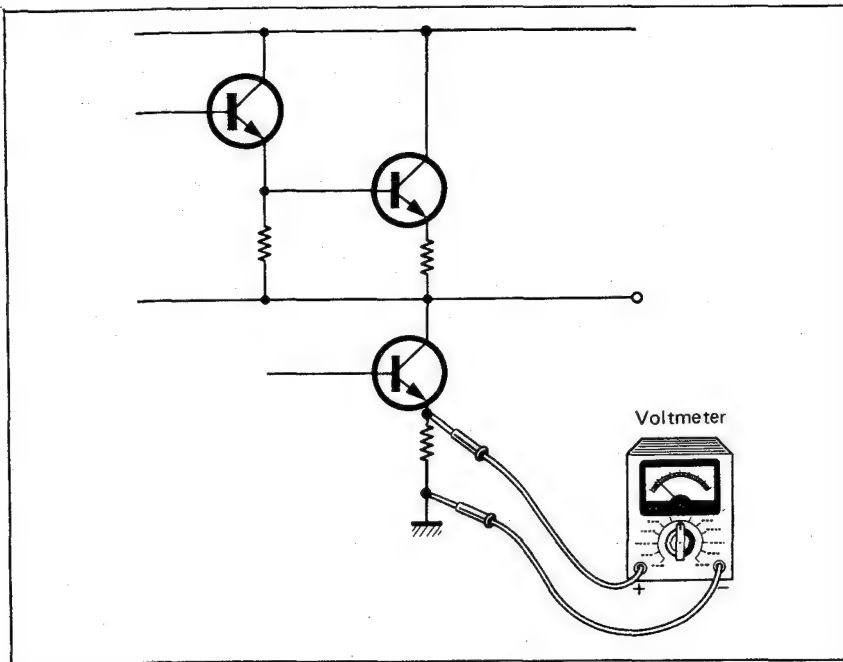
[BIAS CURRENT]

In the case of using the voltmeter

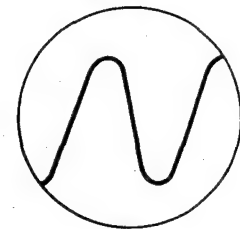
1. Connect the voltmeter across the emitter resistor of power transistors.
2. Check the voltmeter to be 20mV.
3. If not, turn the PC trimmer potentiometer (VRe1, 2) so that the meter has rating value.

In the case of using the audio generator and oscilloscope, etc.

1. Connect the dummy load (8Ω) to speaker terminal and do the oscilloscope across the dummy.
2. Feed the signal (1 kHz) to the set.
3. Check the waveform to be the best.
4. If not, turn the PC trimmer potentiometer (VRe1, 2) so that the waveform is distortionless.
5. Check the voltmeter to be 20mV.



Distorted waveform



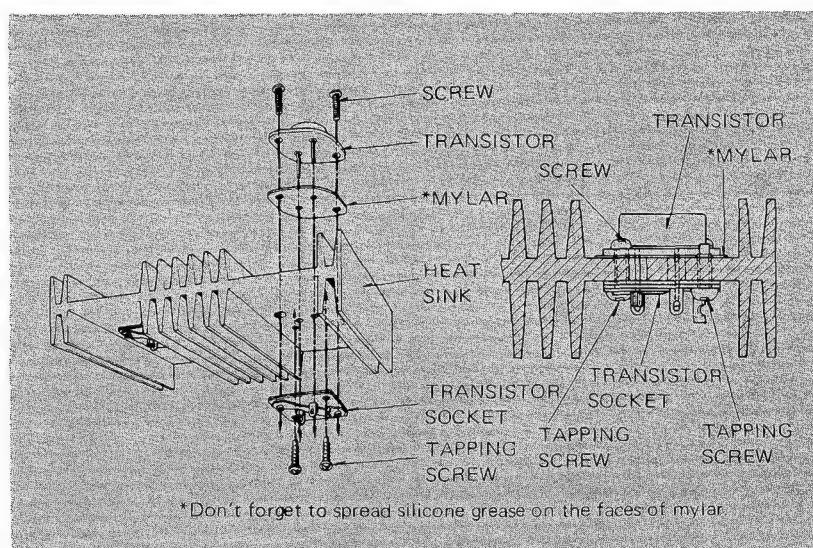
Best waveform

HOW TO REPLACE POWER TRANSISTOR

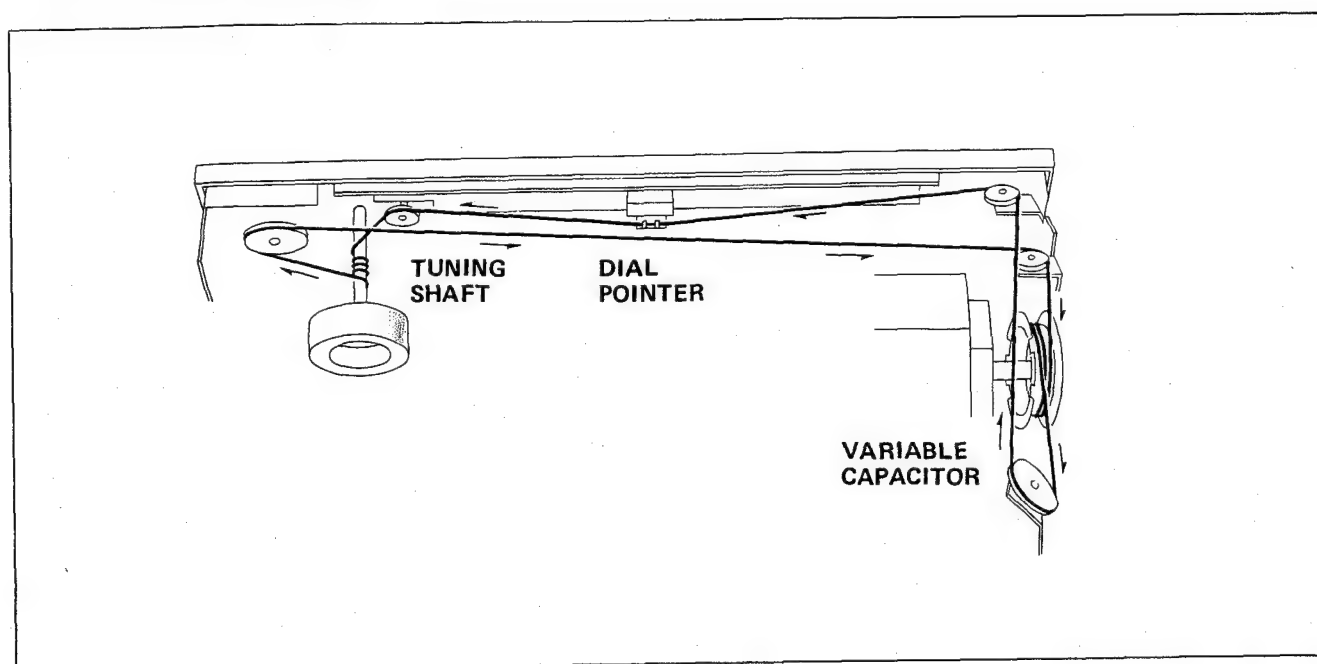
[REPLACING POWER TRANSISTOR]

1. Remove screws (not tapping screw).
2. Replace the power transistor with new.
At this time, don't forget to spread silicone grease on faces of mylar.
3. Fix the power transistor with screw on the heat sink.
4. Check the transistor is not in contact with the heat sink.

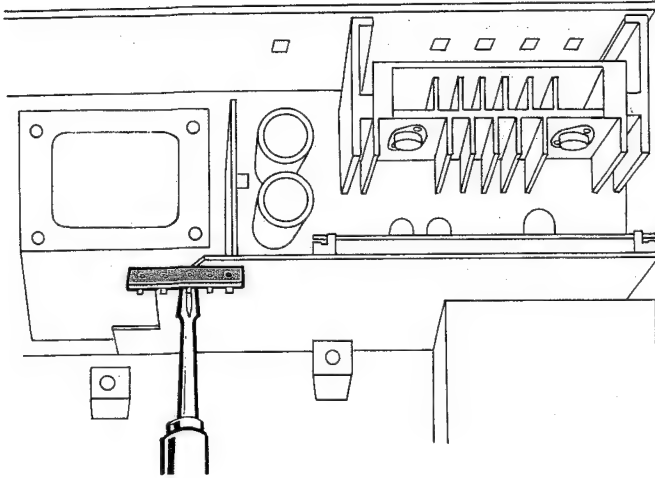
Note: 1. Tapping screw holds the transistor socket. Don't remove it without necessity.
2. Before fix the transistor, in the case of replacing transistor socket, do the transistor socket.



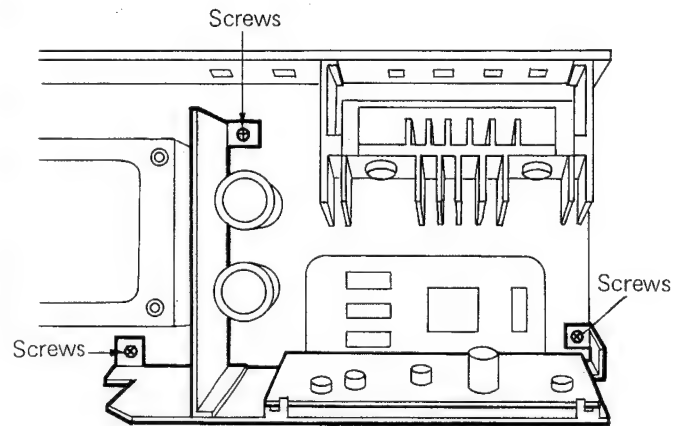
▼ DIAL CORD STRINGING



HOW TO REPAIR FINAL STAGE (RIGHT CHANNEL)

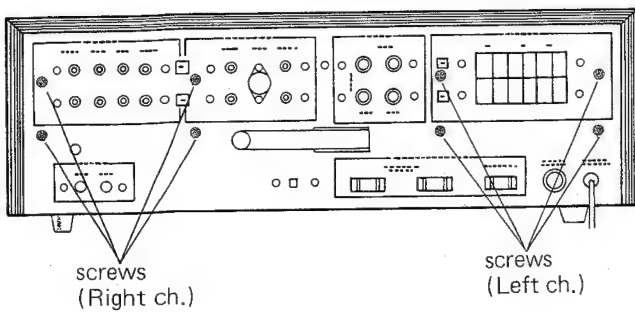


▲ Remove the lug connecting dial pointer.

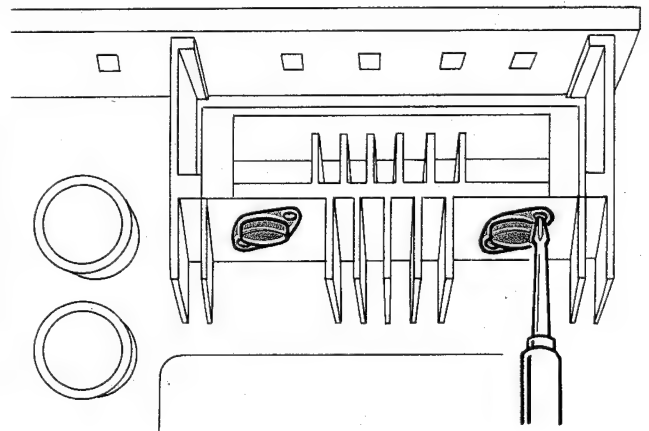


▲ Remove the shield plate.

1 → 2
↓
4 ← 3

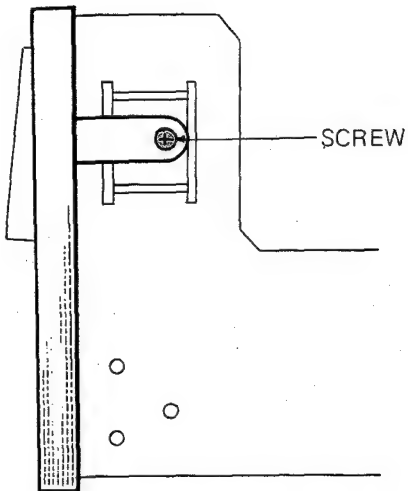


▲ If you want to remove a heat sink, unscrew screws on rear panel.

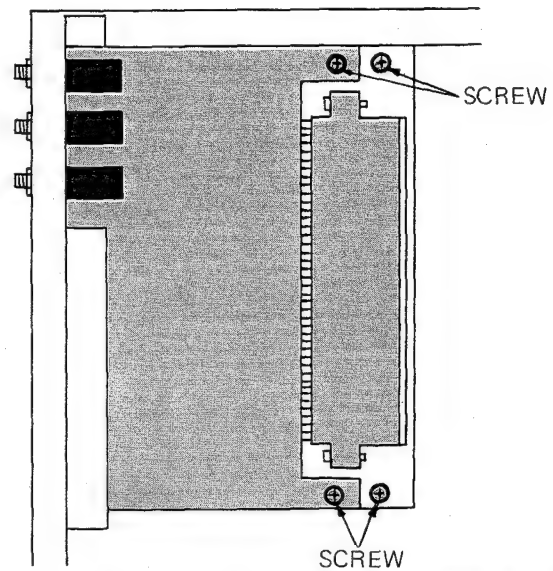


▲ Adjust power transistors.

HOW TO REPLACE PUSHBUTTON PC BOARD

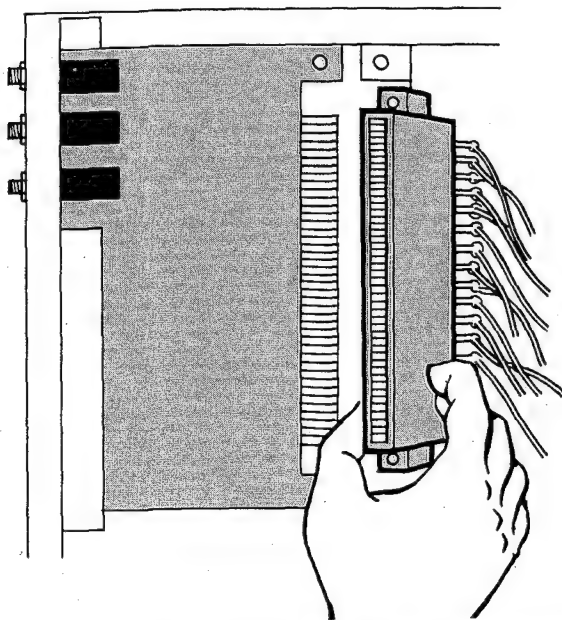


- ▲ Remove the case and the screw setting right side of front panel – front panel fixed by nuts of potentiometer and rotary switches.

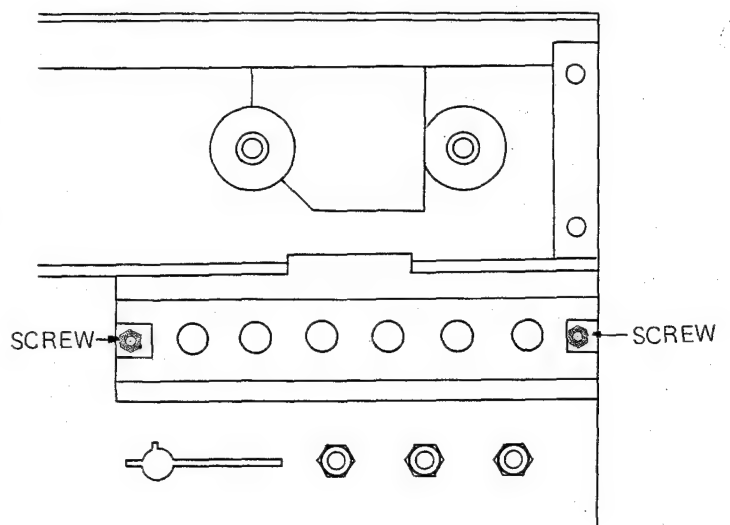


- ▲ Remove screws fixing pc board and pc board connector.

1 → 2
↓
4 ← 3



- ▲ First pull out the pc board from connector and next do out pc board.

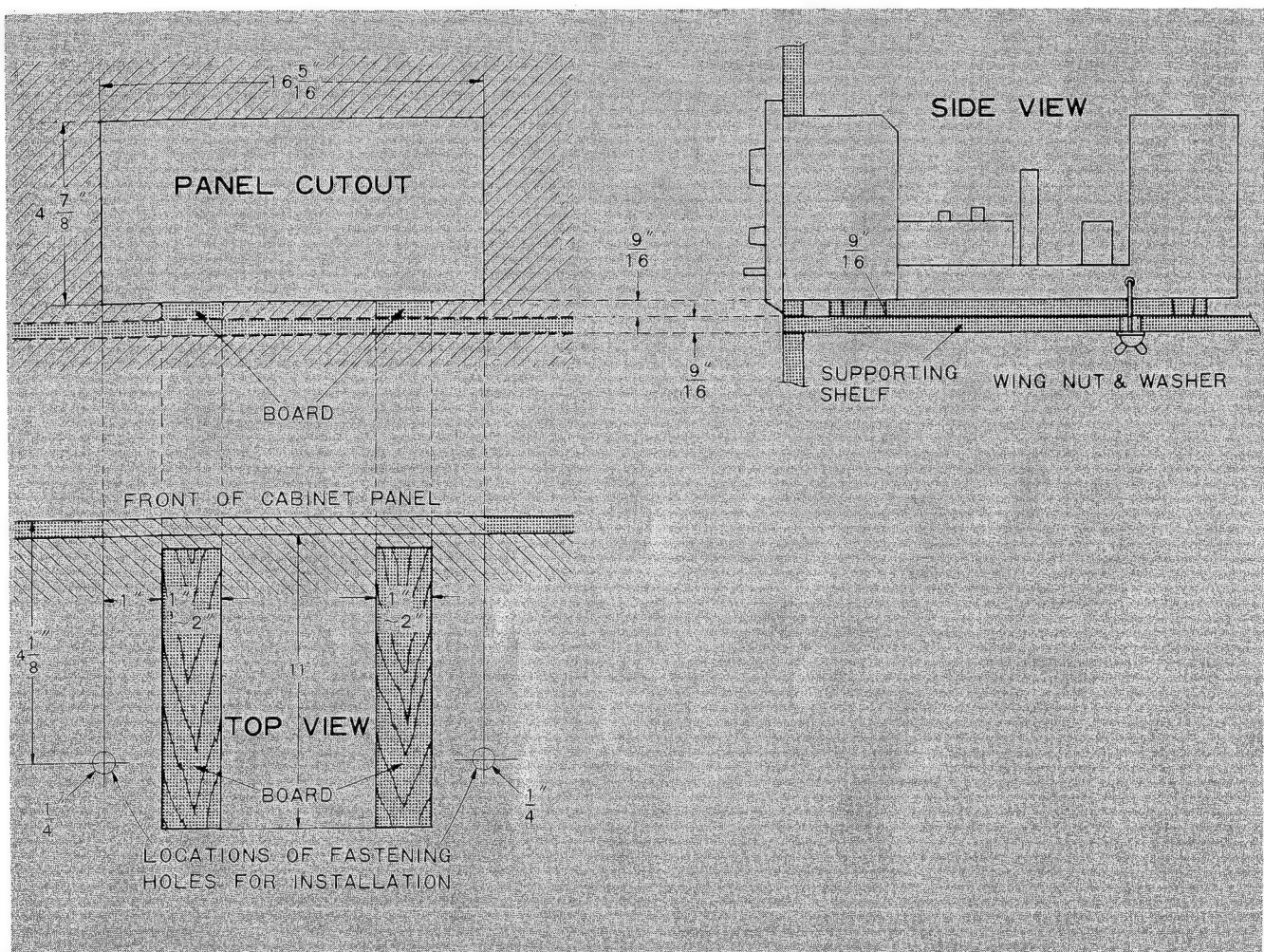


- ▲ Remove screws fixing pc board on front chassis.

HOW TO MOUNT THE SET

DIRECTIONS FOR PANEL MOUNTING

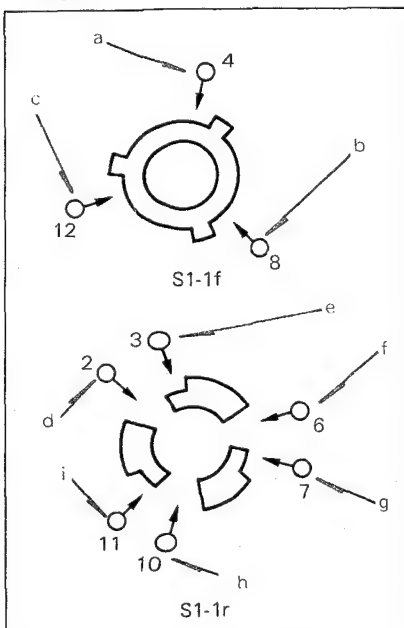
1. Remove the walnut cabinet.
2. Locate the supporting shelf at the height you wish the receiver positioned.
3. Remove the four bottom legs.
4. An air space must be made between the bottom of the set and the supporting shelf to assure good ventilation and cool operation. This space can be made by placing two boards which measure $\frac{9}{16}$ " thick by 1" to 2" width between chassis and the supporting shelf.
5. Make panel cutout in the size shown at left $4\frac{7}{8}$ " x $16\frac{5}{16}$ ". The bottom of the cutout should be flush with the bottom plate of the receiver, as shown in the side view. The distance between the bottom of the cutout and the top of the supporting shelf is $\frac{9}{16}$ ".
6. The receiver is held in place by two bolts. The holes must be made in the shelf to correspond with the holes in the receiver. Use the "Top View" to locate these holes on the supporting shelf. The holes should be made $\frac{1}{4}$ " in diameter or somewhat larger.



HOW TO UNDERSTAND ROTARY SWITCH

- See Fig. 1, for an example.
- S1 means one of rotary switches, number 1 SELECTOR switch.
- Namely, 2 means the 2nd wafer, and 3 means the 3rd wafer. Others are like so. (Fig. 2)
- The numbering of contact points are as shown in Fig. 3

Fig. 1



◎ means connection of the same contact point of rear and front wafer.

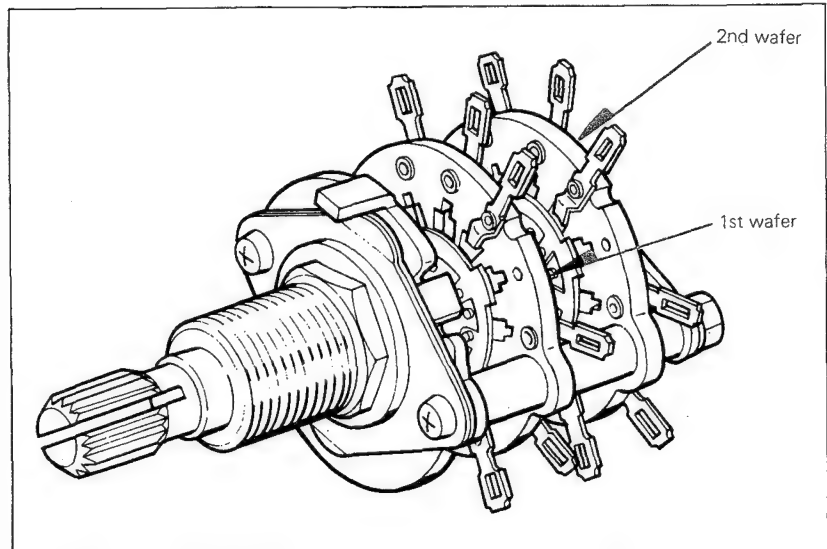


Fig. 2

Fig. 3

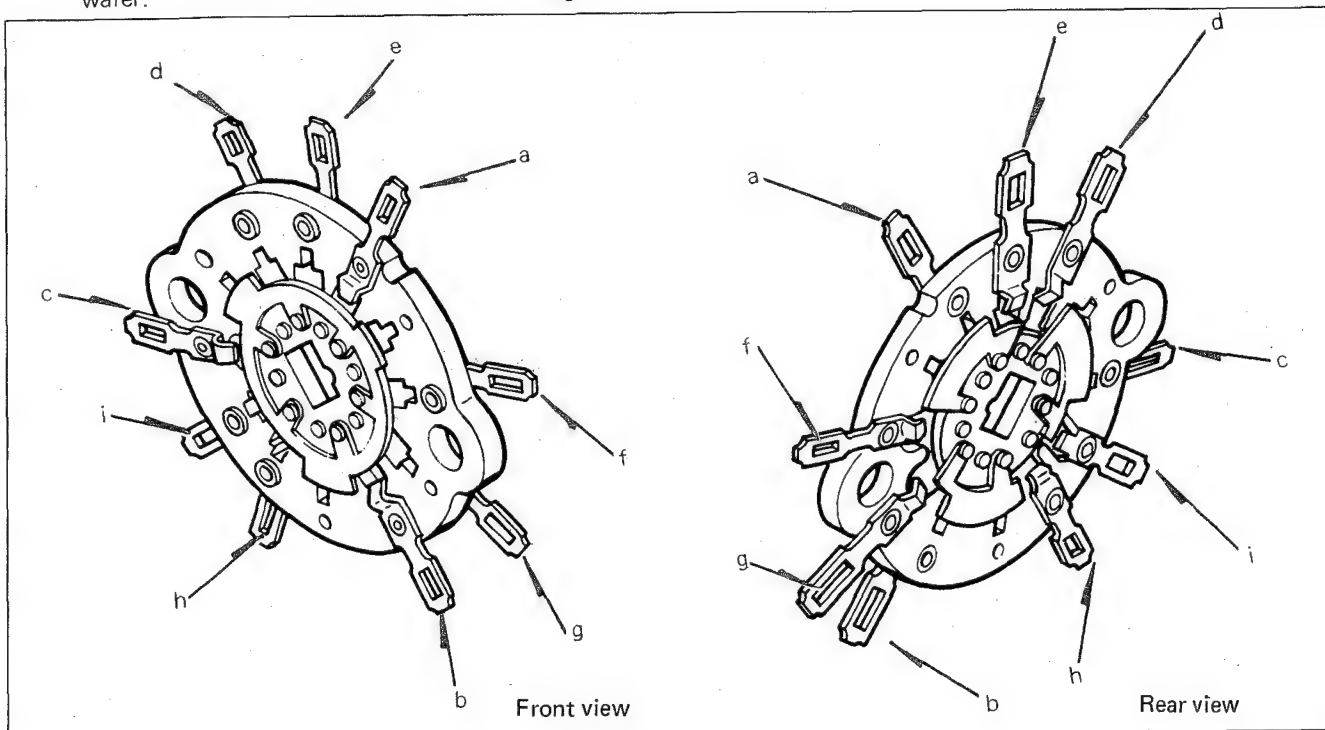
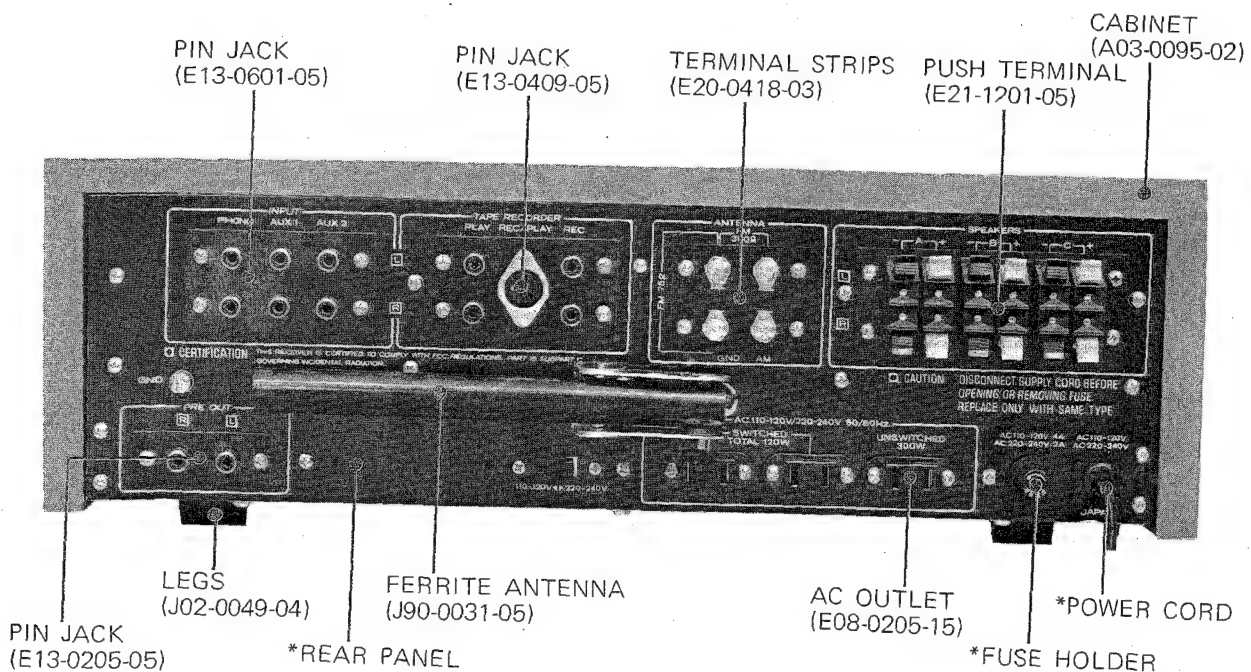
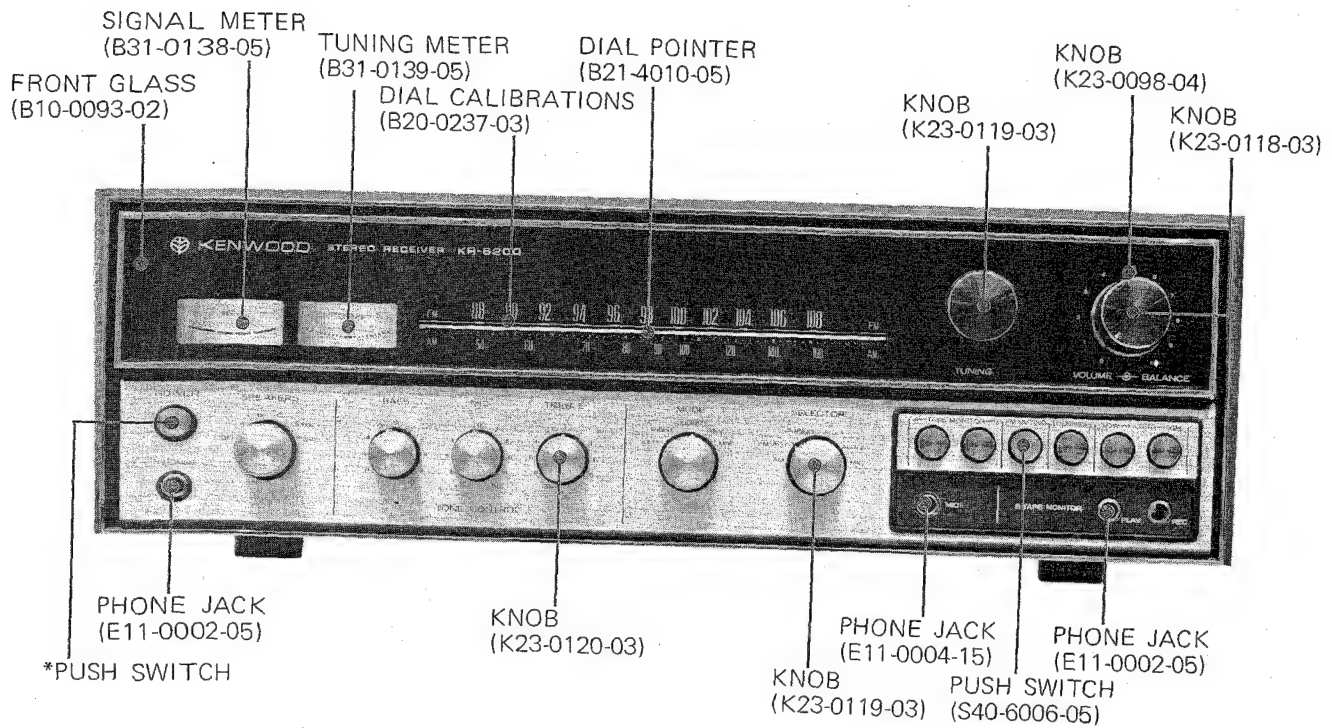


TABLE OF TRANSISTOR ABSOLUTE MAX. RATINGS

Transistor's name	VCBO	VCEO	VEBO	IC	IE	PC	TJ	hFE	Type
2SA620WL	-60V	-50V	-5V	-50mA	50mA	200mW	125°C	90 ~ 500	Si
2SA673A	-55V	-55V	-4V	-0.5A	0.5A	0.4W	125°C	60 ~ 200	Si
2SA733	-50V	-40V	-5V	-100mA	—	250mW	125°C	90 ~ 270	Si
2SC381	40V	30V	4V	20mA	-20mA	100mW	125°C	40 ~ 80	Si
2SC458	30V	30V	5V	100mA	—	200mW	125°C	60 ~ 500	Si
2SC785R	40V	30V	4V	20mA	-20mA	100mW	125°C	40 ~ 80	Si
2SC941	35V	30V	4V	20mA	-20mA	200mW	125°C	40 ~ 140	Si
2SC945	50V	40V	5V	100mA	—	250mW	125°C	90 ~ 270	Si
2SC983	250V	150V	5V	50mA	-50mA	600mW	150°C	70 ~ 240	Si
2SC1161	200V	120V	6V	1A	—	15W	150°C	30 ~ 200	Si
2SC1213A	55V	55V	4V	500mA	-500mA	400mW	125°C	60 ~ 200	Si
2SC1345	55V	50V	5V	100mA	-100mA	200mW	125°C	400 ~ 1200	Si
2SC1416A	55V	50V	5V	50mA	-50mA	200mW	150°C	200 ~ 700	Si
2SD220	80V	50V	7V	1A	-1A	500mW	—	70 ~ 400	Si

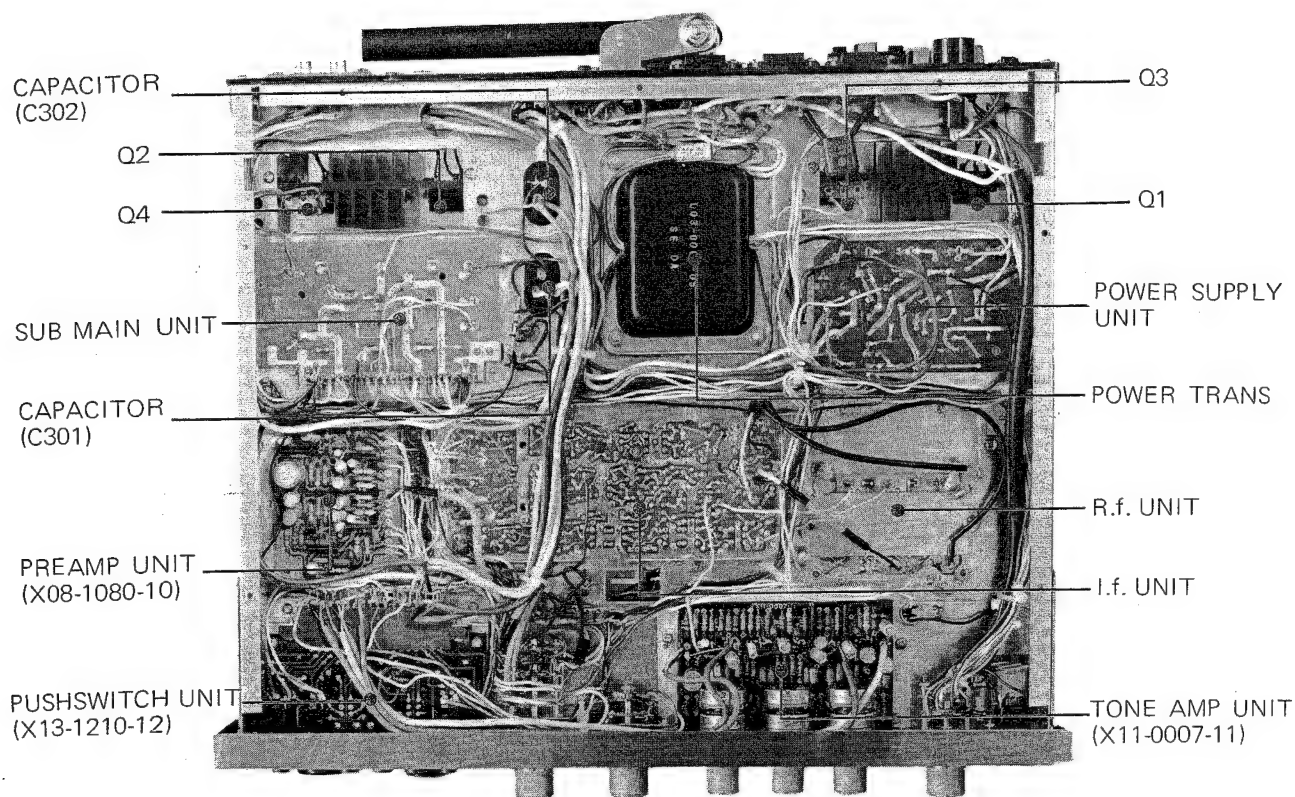
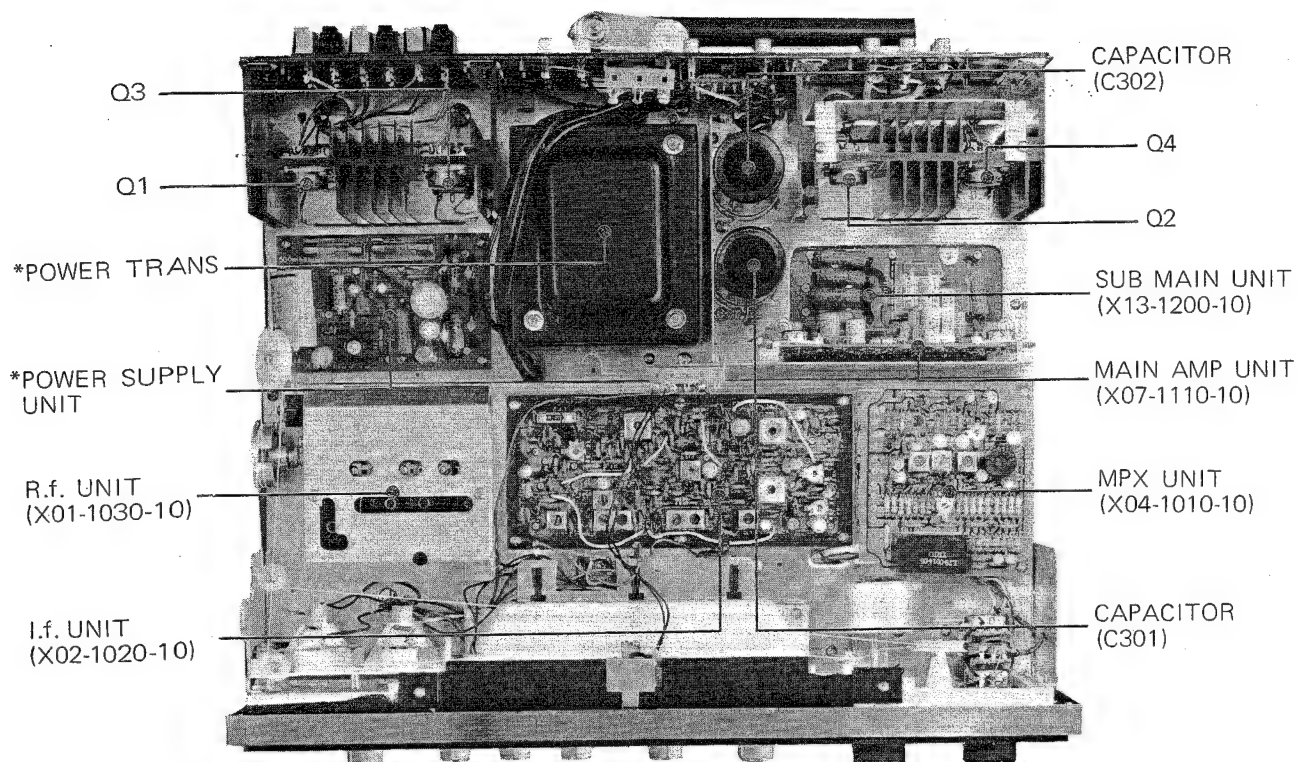
VCBO	: Collector to base voltage	IE	: Emitter current
VCEO	: Collector to emitter voltage	PC	: Maximum power disposition
VEBO	: Emitter to base voltage	TJ	: Operating junction temperature
IC	: Collector current	Si	: Silicon transistor

EXTERNAL VIEW



*See the parts list.

TOP & BOTTOM CHASSIS VIEW



*See the parts list.

PARTS LIST

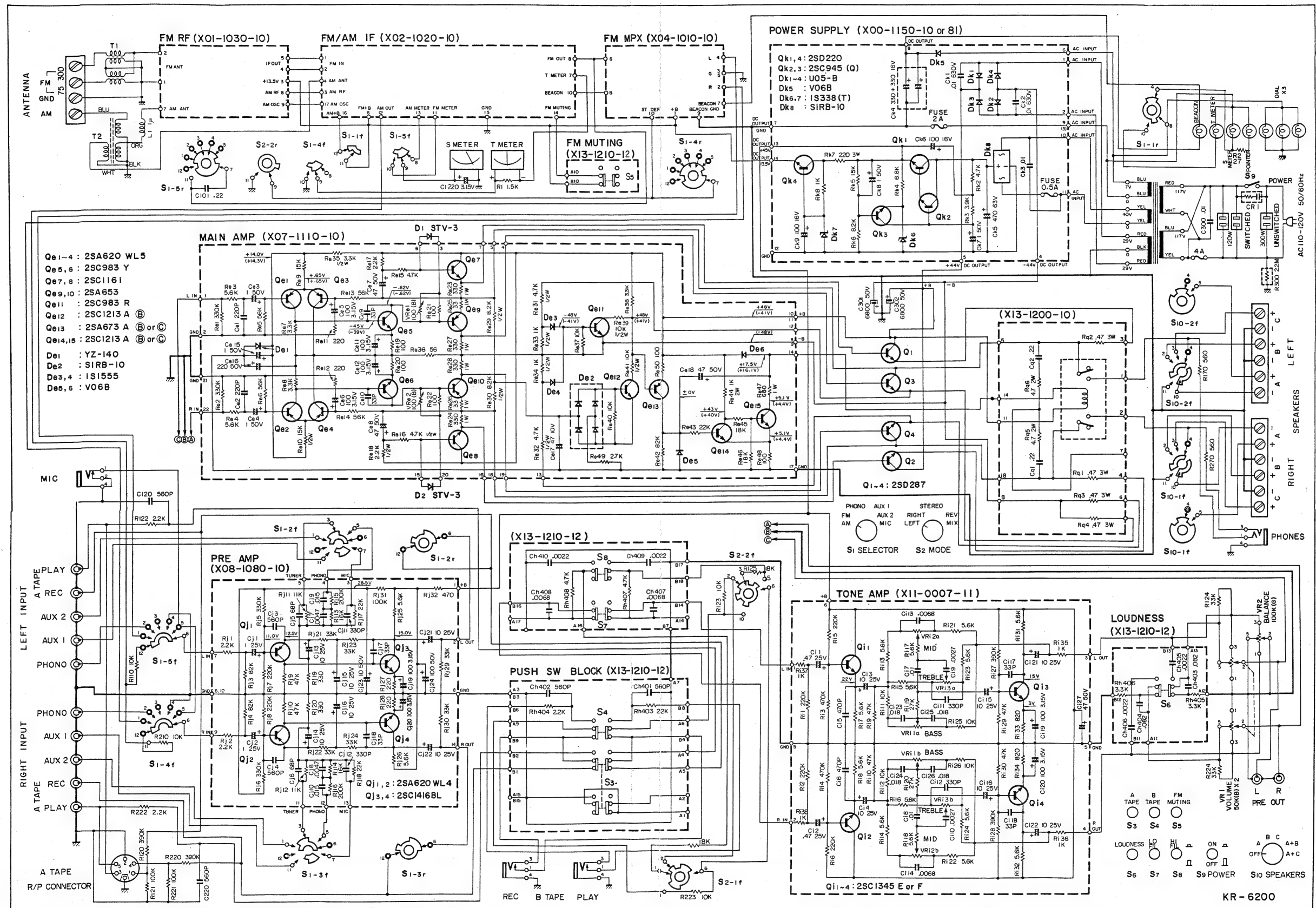
Ref. No.	Parts No.	Description	Remarks
CAPACITOR			
C1	CE04W0F221	Electrolytic 220 μ F 3.15WV	
C101	CQ93M1H224M	Mylar 0.22 μ F \pm 20%	
C120	CK45D1H561M	Ceramic 560pF \pm 20%	
C220	CK45D1H561M	Ceramic 560pF \pm 20%	
C300	C90-0029-05	Oil filled 0.01 μ F +100% -0%	
C301, 302	C90-0129-05	Electrolytic 6800 μ F 50WV	
RESISTOR			
R1	PD14BY2E152J	Carbon 1.5k Ω \pm 5% 1/4W	
R2	RC05GF2H270K	Carbon 27 Ω \pm 10% 1/2W	
R110	PD14BY2E103J	Carbon 10k Ω \pm 5% 1/4W	
R120	PD14BY2E394J	Carbon 390k Ω \pm 5% 1/4W	
R121	PD14BY2E104J	Carbon 100k Ω \pm 5% 1/4W	
R122	PD14BY2E222J	Carbon 2.2k Ω \pm 5% 1/4W	
R123	PD14BY2E103J	Carbon 10k Ω \pm 5% 1/4W	
R124	PD14BY2E333J	Carbon 33k Ω \pm 5% 1/4W	
R125	PD14BY2E183J	Carbon 18k Ω \pm 5% 1/4W	
R170	RC05GF2H561K	Carbon 560 Ω \pm 10% 1/2W	
R210	PD14BY2E103J	Carbon 10k Ω \pm 5% 1/4W	
R220	PD14BY2E394J	Carbon 390k Ω \pm 5% 1/4W	
R221	PD14BY2E104J	Carbon 100k Ω \pm 5% 1/4W	
R222	PD14BY2E222J	Carbon 2.2k Ω \pm 5% 1/4W	
R223	PD14BY2E103J	Carbon 10k Ω \pm 5% 1/4W	
R224	PD14BY2E333J	Carbon 33k Ω \pm 5% 1/4W	
R225	PD14BY2E183J	Carbon 18k Ω \pm 5% 1/4W	
R270	RC05GF2H561K	Carbon 560 Ω \pm 10% 1/2W	
R300	RC05GF2H225K	Carbon 2.2M Ω \pm 10% 1/2W	
SEMICONDUCTOR			
Q1 ~5		2SD287	
D1, 2		STV-3	
SWITCH			
S1	S04-5014-05	Rotary (SELECTOR)	
S2	S04-2043-05	Rotary (MODE)	
S10	S04-2036-05	Rotary (SPEAKERS)	
POTENTIOMETER			
VR1	R11-9003-05	Potentiometer 50k Ω (B) three gangs VOLUME	
VR2	R11-9003-05	Potentiometer 100k Ω (W) three gangs BALANCE	
MISCELLANEOUS			
—	A03-0095-02	Cabinet	
—	A10-0313-11	Chassis	
—	A15-0018-02	Frame	
—	A15-0019-13	Frame assembly	
—	A20-0518-05	Panel	
—	A20-0520-03	Panel assembly	
—	A21-0096-02	Ornamental plate	
—	A30-0066-05	Dial board	
—	A40-0097-03	Bottom plate	
—	B07-0084-04	Black spacer	

Ref. No.	Parts No.	Description	Remarks
—	B10-0093-02	Front glass	UL
—	B20-0237-03	Dial calibrations	
—	B21-4010-05	Dial pointer	
PL	B30-0060-05	Pilot lamp (300mA) x 3	
PL	B30-0064-05	Pilot lamp (50mA, stereo indicator)	
—	B30-0067-05	Meter pilot lamp (8V, 150mA) x 2	
—	B31-0137-05	Meter assembly	
—	B31-0138-05	Signal meter	
—	B31-0139-05	Tuning meter	
—	B42-0009-04	Passed sticker	
—	B42-0352-14	Name plate (C)	
—	B42-0353-14	Name plate (A)	
—	B52-0133-00	Schematic diagram	
—	D01-0009-05	Flywheel	
—	D15-0073-14	Middle size pulley x 2	
—	D15-0075-04	Small size pulley x 3	
—	D15-0104-04	Pulley	
—	D20-0092-05	Dial shaft	
—	E02-0207-05	Transistor socket x 4	
—	E08-0205-15	AC outlet x 3	
—	E10-2205-05	22P PC board connector	
—	E10-3601-05	36P PC board connector	
—	E11-0002-05	Phone jack (TAPE-REC, PLAY, PHONE) x 3	
—	E11-0002-05	Phone jack (MIC)	
—	E13-0205-05	2P pin jack	
—	E13-0409-05	4P pin jack with DIN	
—	E13-0601-05	6P pin jack	
—	E15-0038-05	Pilot lamp socket	
—	E20-0418-03	4P terminal strips	
—	E21-1201-05	12P push terminal	
—	F01-0119-13	Heat sink x 2	
—	F07-0264-14	Dial cover	
—	F10-0273-13	MAIN unit shield plate	
—	F10-0274-04	INPUT shield plate	
—	G01-0045-04	Dial spring	
—	H01-0805-04	Carton case	
—	J02-0049-14	Leg x 4	
—	J19-0010-04	Varistor stopper x 2	
—	J19-0029-14	Front glass stopper x 2	
—	J19-0249-04	Meter stopper	
—	J19-0250-14	Dial stopper	
—	J19-0251-14	Left side board	
—	J19-0252-34	Right side board	
—	J19-0266-04	Upper front glass stopper	
—	J19-0267-04	Lower front glass stopper x 3	
—	J21-0192-04	Amp stopper	

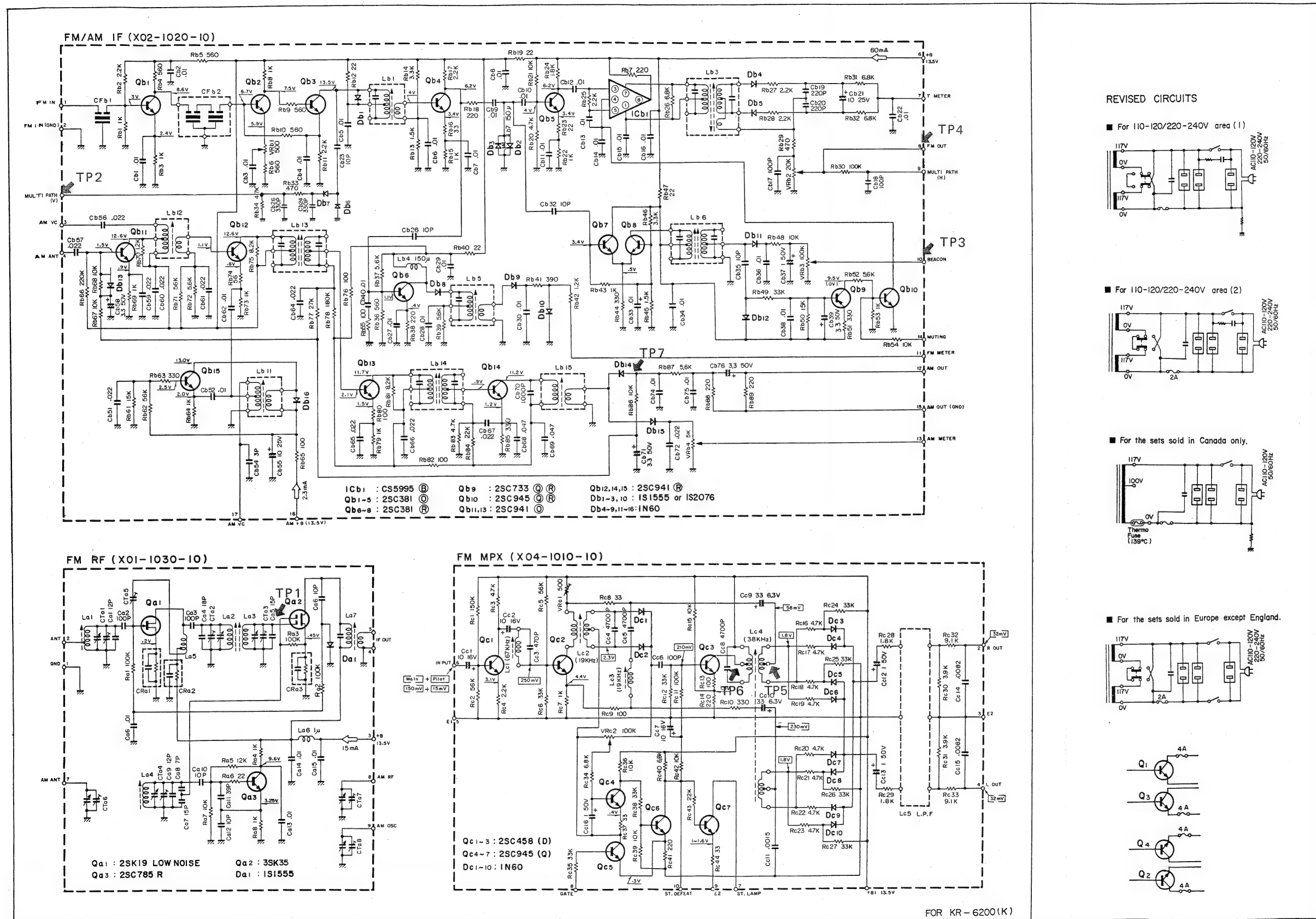
Ref. No.	Part No.	Description	Remarks
—	J21-0973-14	Pushbutton switch mounting hardware	
—	J21-0975-04	Shield plate mounting hardware	
—	J21-0976-14	L shape mounting hardware	
—	J21-0977-04	Switch mounting hardware	
—	J21-0989-14	Pilot lamp mounting hardware	
—	J21-1001-04	Frame mounting hardware	
—	J21-1011-04	Panel mounting hardware	
—	J25-0768-04	DIN PC board	
—	K23-0098-04	Knob (BALANCE)	
—	K23-0117-03	Knob (TUNING)	
—	K23-0118-03	Knob (VOLUME)	
—	K23-0119-03	Knob (SPEAKERS, MODE, SELECTOR)	
—	K23-0120-03	Knob (TONE) x 3	
—	K29-0115-04	Knob (POWER)	
—	K29-0117-04	Knob (push button) x 6	
T1	L19-0009-05	Balun transformer	
L1	L33-0025-05	Choke coil (1 μ H)	
—	T90-0002-05	FM indoor antenna	
T2	T90-0031-05	Ferrite antenna	
—	X01-1030-10	FM-RF unit	
—	X02-1020-10	IF unit	
—	X04-1010-10	MPX unit	
—	X07-1110-10	MAIN AMP. unit	
—	X08-1080-10	PRE AMP. unit	
—	X11-0007-11	TONE AMP. sub unit	
—	X13-1210-12	Pushbutton unit	
In North America add to the following parts.			
—	A23-0286-02	Rear panel	
—	B40-0631-04	Model name plate — only Canada	
—	B40-0640-04	Model name plate — only U.S.A.	
—	B42-0359-04	UL caution sticker x 2	
—	B46-0002-00	Warranty card (light blue) — only U.S.A.	
—	B46-0021-00	Warranty card (light blue) — only Canada	
—	B50-0831-00	Instruction manual	
—	B58-0043-00	Carton case caution card	
—	E30-0046-05	Power cord	UL
—	F05-4021-05	Fuse (4A) — only U.S.A.	UL
—	F05-4022-05	Fuse (4A) — only Canada	
—	H03-0138-04	Carton case	
—	J13-0016-15	Fuse holder	UL
—	J20-0227-14	AC outlet mounting hardware	
—	L03-0068-15	Power transformer — only U.S.A.	
—	L05-0011-15	Power transformer — only Canada	

Ref. No	Parts No.	Description	Remarks
CR1	R90-0097-05	Spark killer — only U.S.A.	
S9	S39-2002-05	Pushbutton switch (POWER)	
—	X00-1150-10	Power supply unit	
	In other area		
—	A23-0287-02	Rear panel	
—	B40-0641-04	Model name plate	
—	B46-0022-00	Warranty card (yellow)	
—	B46-0023-00	Warranty card (yellow)	
—	B50-0832-00	Instruction manual	
—	B58-0139-00	Power supply caution card	
—	B58-0144-00	Power voltage selector caution card	
—	B58-0146-00	Spare fuse caution card	
—	B59-0018-00	KENWOOD service stations' list	
—	D32-0021-04	Switch stopper	
—	E30-0034-05	Power cord	
—	F05-2023-05	Fuse (2A)	
—	F05-4022-05	Fuse (4A)	
—	J13-0033-05	Fuse holder	
—	L03-0067-15	Power transformer	
CR1	R90-0097-05	Spark killer	
—	S31-2001-05	Slide switch (power voltage selector)	SEV
S9	S39-2003-05	Pushbutton switch (POWER)	SEV
—	X00-1150-81	Power supply unit	

SCHEMATIC DIAGRAM (1)



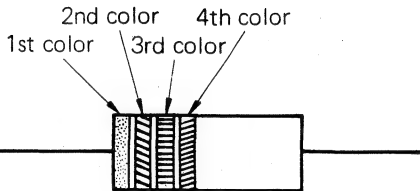
SCHEMATIC DIAGRAM (2)



COLOR CODE

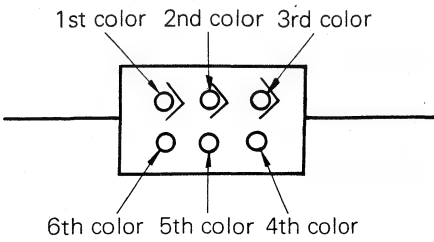
RESISTOR

COLOR (meaning)	1st (value)	2nd (value)	3rd (multiplier)	4th (tolerance)
Black	0	0	10 ⁰	—
Brown	1	1	10 ¹	±1%
Red	2	2	10 ²	±2%
Orange	3	3	10 ³	—
Yellow	4	4	10 ⁴	—
Green	5	5	10 ⁵	—
Blue	6	6	10 ⁶	—
Purple	7	7	10 ⁷	—
Grey	8	8	10 ⁸	—
White	9	9	10 ⁹	—
Gold	—	—	10 ⁻¹	±5%
Silver	—	—	10 ⁻²	±10%
Non-color	—	—	—	±20%



CAPACITOR (MICA)

COLOR (meaning)	1st (grade)	2nd (value)	3rd (value)	4th (multiplier)	5th (tolerance)	6th (characteristic)
Black	X	0	0	10 ⁰	±20%	—
Brown	—	1	1	10 ¹	±1%	B
Red	Z	2	2	10 ²	±2%	C
Orange	—	3	3	10 ³	—	D
Yellow	—	4	4	10 ⁴	—	E
Green	—	5	5	—	* ±5%	—
Blue	—	6	6	—	—	—
Purple	—	7	7	—	—	—
Grey	Y	8	8	—	—	—
White	—	9	9	0.1	±10%	—



Unit = pF
* Capacitance being less than 10pF is ±0.5pF on tolerance.



Manufactured by TRIO ELECTRONICS INC., TOKYO, JAPAN.

KENWOOD® POWER SUPPLY(X00-1150-81) SECTION

(KR-7200) (KR-6200)

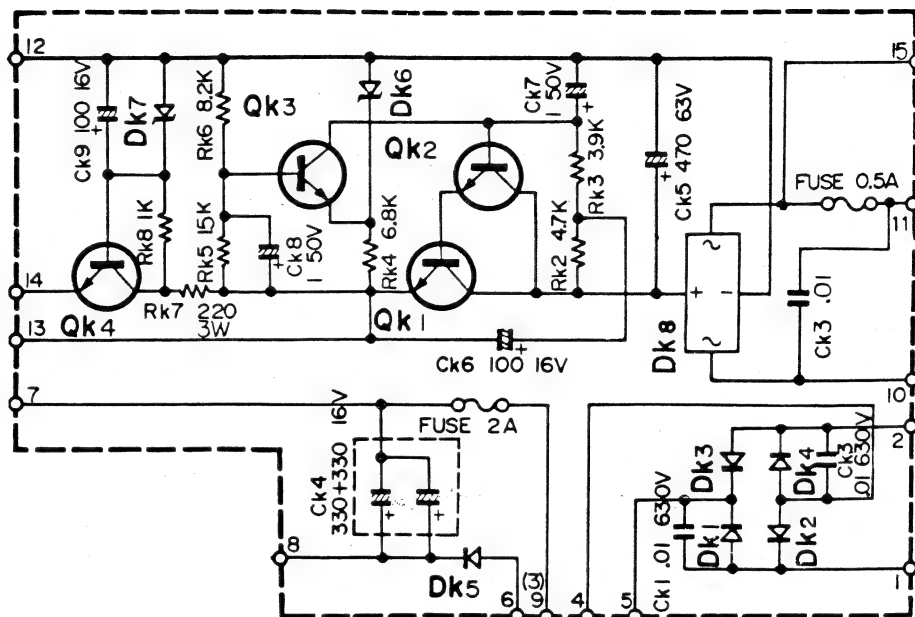
SCHEMATIC DIAGRAM

BOTTOM VIEW
OF
TRANSISTORS

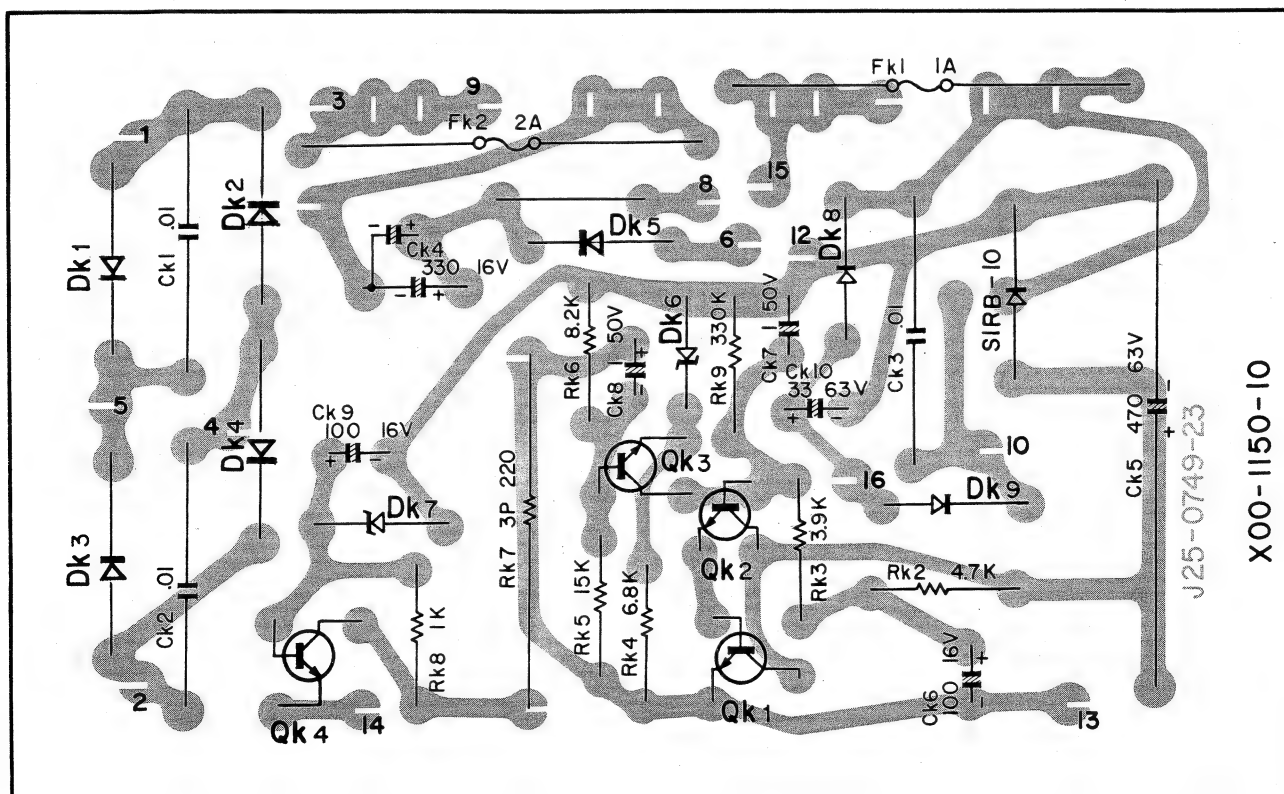
2SC945



2SD220



SEALED CIRCUIT ASSEMBLIES-PHANTOM VIEWS



Qk 1, 4: 2SD220, Qk2, 3: 2SC945 (Q), Dk1 ~ 4: U05B, Dk5: V0-6B, Dk6, 7: 1S338 (T), Dk8: S1RB10

PARTS DESCRIPTION LIST

Ref. No.	Parts No.	Description	Remarks
CAPACITOR			
Ck1 ~ 3	CP02B2J103M	Oil filled 0.01 μ F \pm 20%	
Ck4	CE04W1C331X2	Electrolytic 330 μ F x 2 16WV	
Ck5	CE02W1J471	Electrolytic 470 μ F 63WV	
Ck6	CE04W1C101	Electrolytic 100 μ F 16WV	
Ck7, 8	CE04W1H010	Electrolytic 1 μ F 50WV	
Ck9	CE04W1C101	Electrolytic 100 μ F 16WV	
RESISTOR			
Rk2	PD14BY2E472J	Carbon 4.7k Ω \pm 5% 1/4W	
Rk3	PD14BY2E392J	Carbon 3.9k Ω \pm 5% 1/4W	
Rk4	PD14BY2E682J	Carbon 6.8k Ω \pm 5% 1/4W	
Rk5	PD14BY2E153J	Carbon 15k Ω \pm 5% 1/4W	
Rk6	PD14BY2E822J	Carbon 8.2k Ω \pm 5% 1/4W	
Rk7	RN14AB3F221J	Metal film 220 Ω \pm 5% 3W	
Rk8	PD14BY2E102J	Carbon 1k Ω \pm 5% 1/4W	
SEMICONDUCTOR			
Qk1		2SD220	
Qk2, 3		2SC945 (Q)	
Qk4		2SD220	
Dk1 ~ 4		U05B	
Dk5		V0-6B	
Dk6, 7		1S338 (T)	
Dk8		S1RB-10	
MISCELLANEOUS			
—	F02-0004-05	Heat sink	
—	F02-0007-05	Heat sink	
—	F05-2023-05	Fuse (2A)	
—	F05-5013-05	Fuse (0.5A)	
—	J13-0023-05	Fuse holder x 2	



FM-RF (X01-1030-10) SECTION

(KR-6200) (KR-5200)

SCHEMATIC DIAGRAM

BOTTOM VIEW OF TRANSISTORS

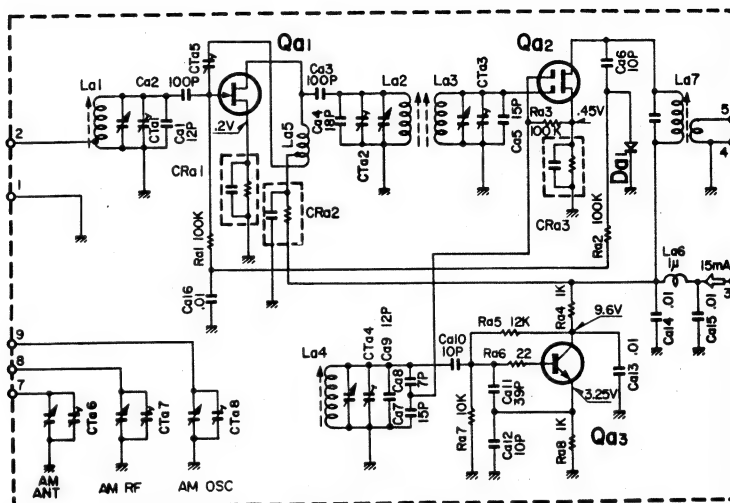
2SK19



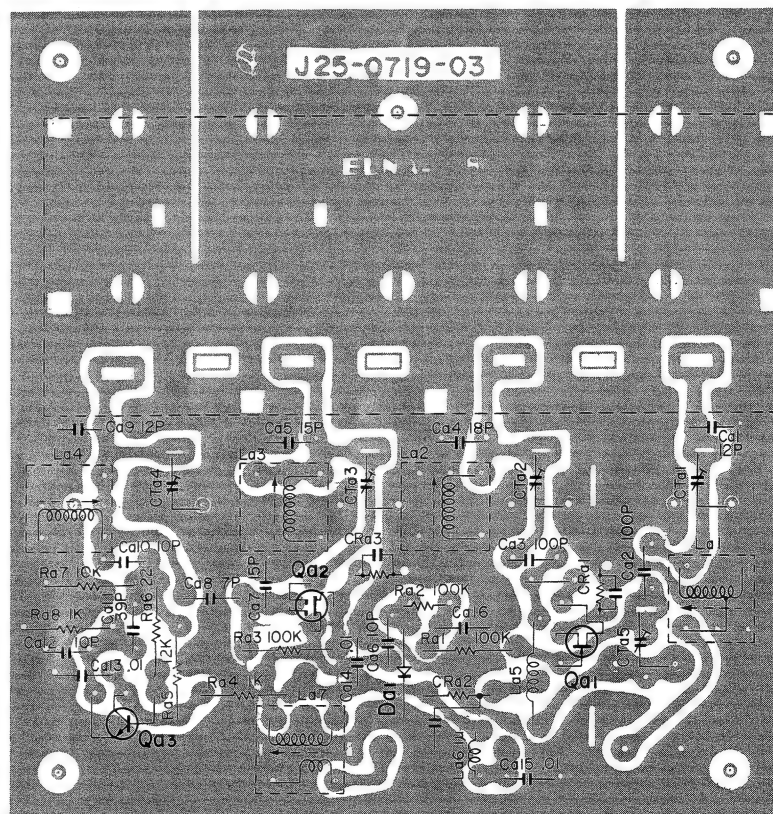
3SK35



2SC785R



SEALED CIRCUIT ASSEMBLIES-PHANTOM VIEWS



Qa1: 2SK19 (Low noise), Qa2: 3SK35, Qa3: 2SC785R, Da1: 1S1555

PARTS DESCRIPTION LIST

Ref. No.	Parts No.	Description	Remarks
CAPACITOR			
Ca1	CC45SH1H120J	Ceramic 12pF $\pm 5\%$	
Ca2, 3	CC45SL1H101K	Ceramic 100pF $\pm 10\%$	
Ca4	CC45SH1H180J	Ceramic 18pF $\pm 5\%$	
Ca5	CC45SH1H150J	Ceramic 15pF $\pm 5\%$	
Ca6	CC45SL1H100J	Ceramic 10pF $\pm 5\%$	
Ca7	CC45TH1H150J	Ceramic 15pF $\pm 5\%$	
Ca8	CC45TH1H070C	Ceramic 7pF $\pm 0.25\text{pF}$	
Ca9	CC45SG1H120J	Ceramic 12pF $\pm 5\%$	
Ca10	CC45SG1H100J	Ceramic 10pF $\pm 5\%$	
Ca11	CC45SG1H390J	Ceramic 39pF $\pm 5\%$	
Ca12	CC45SG1H100J	Ceramic 10pF $\pm 5\%$	
Ca13 ~ 16	CK45F1H103Z	Ceramic 0.01 μF $+80\%, -20\%$	
RESISTOR			
Ra1 ~ 3	PD14BY2B104J	Carbon 100k Ω $\pm 5\%$ 1/8W	
Ra4	PD14BY2B102J	Carbon 1k Ω $\pm 5\%$ 1/8W	
Ra5	PD14BY2B123J	Carbon 12k Ω $\pm 5\%$ 1/8W	
Ra6	PD14BY2B220J	Carbon 22 Ω $\pm 5\%$ 1/8W	
Ra7	PD14BY2B103J	Carbon 10k Ω $\pm 5\%$ 1/8W	
SEMICONDUCTOR			
Qa1		2SK19 (Low noise)	
Qa2		3SK35	
Qa3		2SC785R	
Da1		1S1555	
TRANS./COIL			
La1	L34-0301-04	FM-ANT Coil	
La2	L34-0397-05	FM-RF ₁ Coil	
La3	L34-0398-05	FM-RF ₂ Coil	
La4	L34-0399-05	FM-OSC Coil	
La5	L33-0027-05	Choke coil	
La6	L33-0086-05	Choke coil	
La7	L30-0202-05	FM-IFT	
MULTIPLE COMPONENT			
CRa1	R90-0070-05	Ceramic based multiple components (22 Ω + 0.01 μF)	
CRa2	R90-0071-05	Ceramic based multiple components (220 Ω + 0.01 μF)	
CRa3	R90-0096-05	Ceramic based multiple components (330 Ω + 0.01 μF)	
MISCELLANEOUS			
—	A10-0304-03	Front end chassis	
—	A40-0096-04	Front end bottom plate	
VC	C01-0170-05	Variable capacitor	
CTa1 ~ 5	C05-0009-15	Ceramic trimmer	
—	F07-0251-03	Front end cover	
—	F07-0261-04	Front end chassis	
—	F10-0091-04	Front end shield plate	



PRE AMP (X08-1080-10) SECTION

(KR-7200) (KR-6200) (KR-5200)

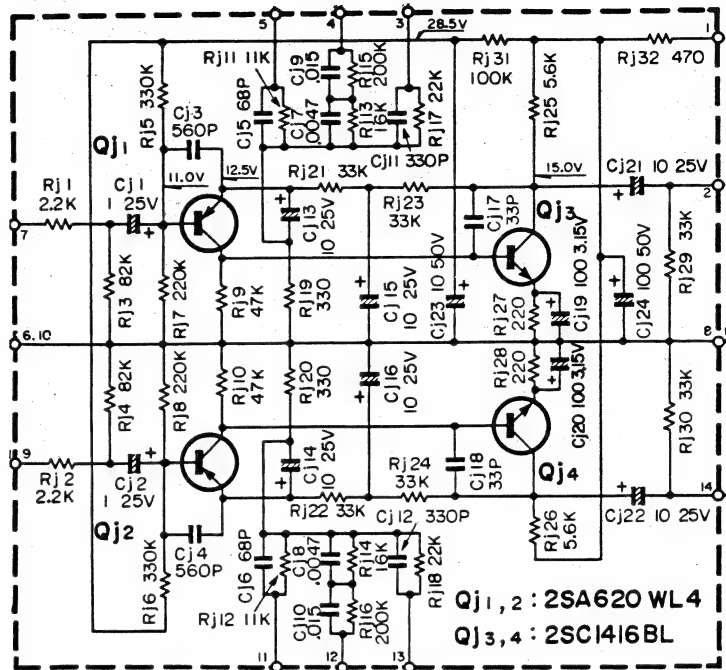
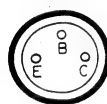
SCHEMATIC DIAGRAM

BOTTOM VIEW OF TRANSISTORS

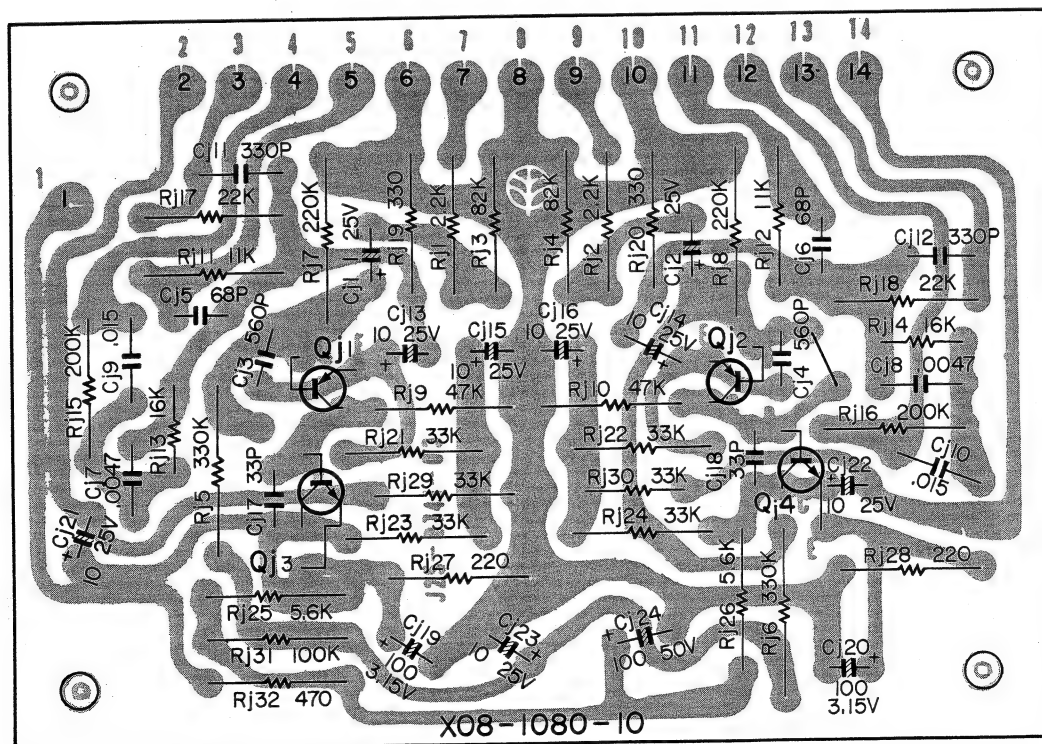
2SC620WL



2SC1416



SEALED CIRCUIT ASSEMBLIES-PHANTOM VIEWS



Qj1, 2: 2SA620WL4, Qj3, 4: 2SC1416 BL

PARTS DESCRIPTION LIST

Ref. No.	Parts No.	Description				Remarks
CAPACITOR						
Cj1, 2	CS04E1E010M	Tantalum	1μF	25WV		
Cj3, 4	CK45D1H561M	Ceramic	560pF	±20%		
Cj5, 6	CC45SL1H680K	Ceramic	68pF	±10%		
Cj7, 8	CQ93M1H472J	Mylar	0.0047μF	±5%		
Cj9, 10	CQ93M1H153J	Mylar	0.015μF	±5%		
Cj11, 12	CK45D1H331M	Ceramic	330pF	±20%		
Cj13 ~ 16	CE04W1E100	Electrolytic	10μF	25WV		
Cj17, 18	CC45SL1H330K	Ceramic	33pF	±10%		
Cj19, 20	CE04W0F101	Electrolytic	100μF	3.15WV		
Cj21, 22	CE04W1E100	Electrolytic	10μF	25WV		
Cj23	CE04W1H100	Electrolytic	10μF	50WV		
Cj24	CE04W1H101	Electrolytic	100μF	50WV		
RESISTOR						
Rj1, 2	PD14BY2E222J	Carbon	2.2kΩ	±5%	1/4W	
Rj3, 4	PD14BY2E823J	Carbon	82kΩ	±5%	1/4W	
Rj5, 6	RN92A2H334J	Metal film	330kΩ	±5%	1/2W	
Rj7, 8	RN92A2H224J	Metal film	220kΩ	±5%	1/2W	
Rj9, 10	PD14BY2E473J	Carbon	47kΩ	±5%	1/4W	
Rj11, 12	PD14BY2E113J	Carbon	11kΩ	±5%	1/4W	
Rj13, 14	RN92A2E163G	Metal film	16kΩ	±1%	1/4W	
Rj15, 16	PD14BY2E204J	Carbon	200kΩ	±5%	1/4W	
Rj17, 18	PD14BY2E223J	Carbon	22kΩ	±5%	1/4W	
Rj19, 20	PD14BY2E331J	Carbon	330Ω	±5%	1/4W	
Rj21 ~ 24	PD14BY2E333J	Carbon	33kΩ	±5%	1/4W	
Rj25, 26	PD14BY2E562J	Carbon	5.6kΩ	±5%	1/4W	
Rj27, 28	PD14BY2E221J	Carbon	220Ω	±5%	1/4W	
Rj29, 30	PD14BY2E333J	Carbon	33kΩ	±5%	1/4W	
Rj31	PD14BY2E104J	Carbon	100kΩ	±5%	1/4W	
Rj32	PD14BY2E471J	Carbon	470Ω	±5%	1/4W	
SEMICONDUCTOR						
Qj1, 2		2SA620WL4				
Qj3, 4		2SC1416BL				



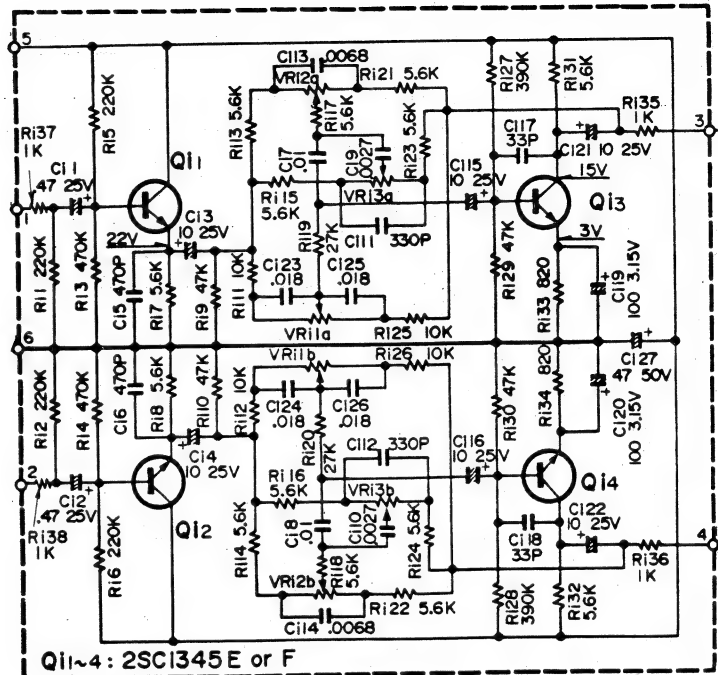
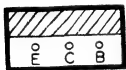
TONE AMP (X11-0007-11) SECTION

(KR-7200) (KR-6200)

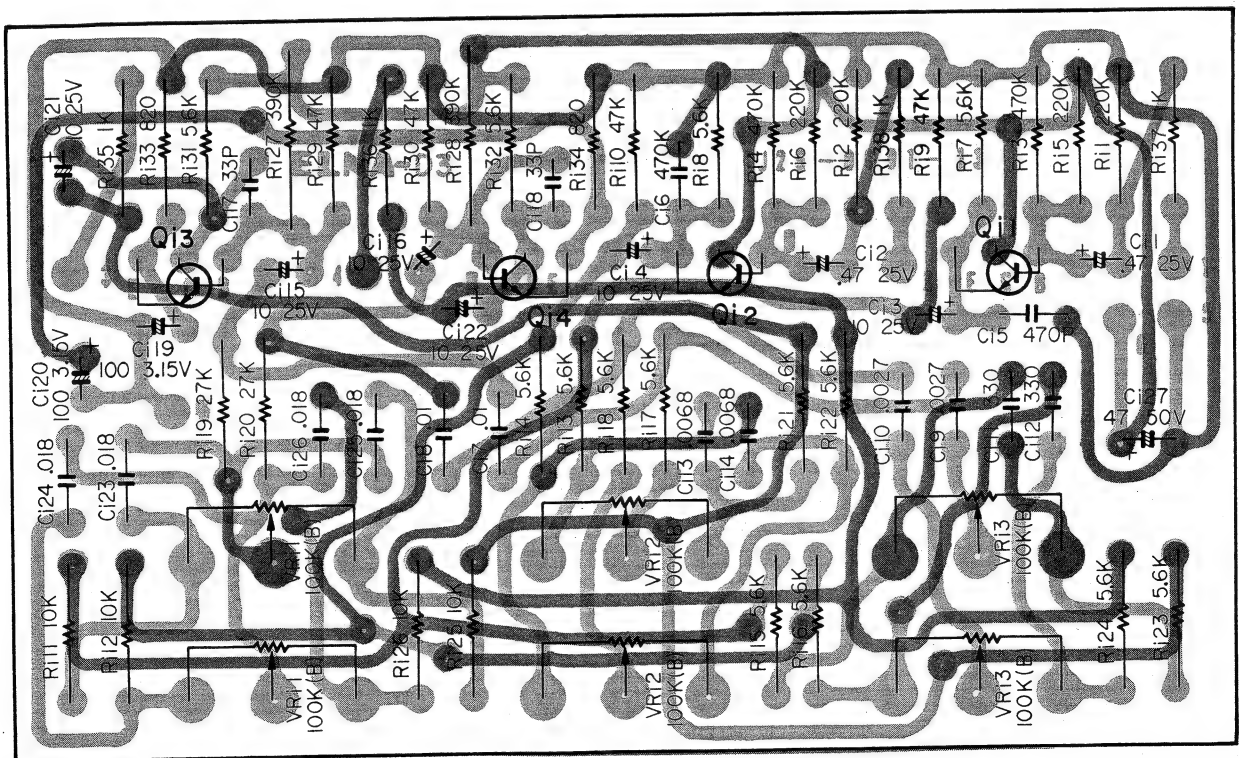
SCHEMATIC DIAGRAM

BOTTOM VIEW
OF
TRANSISTORS

2SC 1345



SEALED CIRCUIT ASSEMBLIES-PHANTOM VIEWS



Q1 ~ 4: 2SC1345 (E) or (F)

**KENWOOD®****TONE AMP (X11-0007-11) SECTION****PARTS DESCRIPTION LIST**

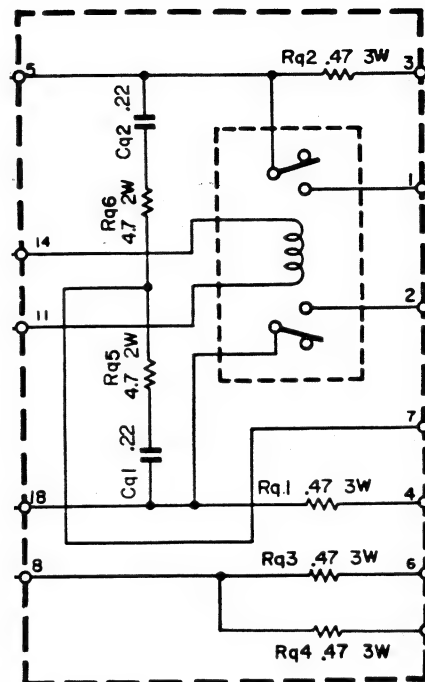
Ref. No.	Parts No.	Description				Remarks
CAPACITOR						
CI1, 2	CS04D1ER47M	Tantalum	0.47μF	25WV		
CI3, 4	CE04W1E100	Electrolytic	10μF	25WV		
CI5, 6	CK94YY1H471M	Ceramic	470pF	±20%		
CI7, 8	CQ93M1H103J	Mylar	0.01μF	±5%		
CI9, 10	CQ93M1H272J	Mylar	0.0027μF	±5%		
CI11, 12	CQ08S1H331J	Polystyrene	330pF	±5%		
CI13, 14	CQ93M1H682J	Mylar	0.0068μF	±5%		
CI15, 16	CE04W1E100	Electrolytic	10μF	25WV		
CI17, 18	CC94SL1H330K	Ceramic	33pF	±10%		
CI19, 20	CE04W0F101	Electrolytic	100μF	3.15WV		
CI21, 22	CE04W1E100	Electrolytic	10μF	25WV		
CI23 ~ 26	CQ93M1H183J	Mylar	0.018μF	±5%		
CI27	CE04W1H470	Electrolytic	47μF	50WV		
RESISTOR						
RI1, 2	PD14BY2E224J	Carbon	220kΩ	±5%	1/4W	
RI3, 4	PD14BY2E474J	Carbon	470kΩ	±5%	1/4W	
RI5, 6	PD14BY2E224J	Carbon	220kΩ	±5%	1/4W	
RI7, 8	PD14BY2E562J	Carbon	5.6kΩ	±5%	1/4W	
RI9, 10	PD14BY2E473J	Carbon	47kΩ	±5%	1/4W	
RI11, 12	PD14BY2E103J	Carbon	10kΩ	±5%	1/4W	
RI13 ~ 18	PD14BY2E562J	Carbon	5.6kΩ	±5%	1/4W	
RI19, 20	PD14BY2E273J	Carbon	27kΩ	±5%	1/4W	
RI21 ~ 24	PD14BY2E562J	Carbon	5.6kΩ	±5%	1/4W	
RI25, 26	PD14BY2E103J	Carbon	10kΩ	±5%	1/4W	
RI27, 28	RN92A2H394J	Metal film	390kΩ	±5%	1/2W	
RI29, 30	PD14BY2E473J	Carbon	47kΩ	±5%	1/4W	
RI31, 32	PD14BY2E562J	Carbon	5.6kΩ	±5%	1/4W	
RI33, 34	PD14BY2E821J	Carbon	820Ω	±5%	1/4W	
RI35 ~ 37	PD14BY2E102J	Carbon	1kΩ	±5%	1/4W	
SEMICONDUCTOR						
QI1 ~ 4		2SC1345 (E) or (F)				
POTENTIOMETER						
VRi1	R08-5017-05	Potentiometer	100kΩ (B) dual BASS			
VRi2	R08-5017-05	Potentiometer	100kΩ (B) dual TREBLE			
VRi3	R08-5017-05	Potentiometer	100kΩ (B) dual MID			



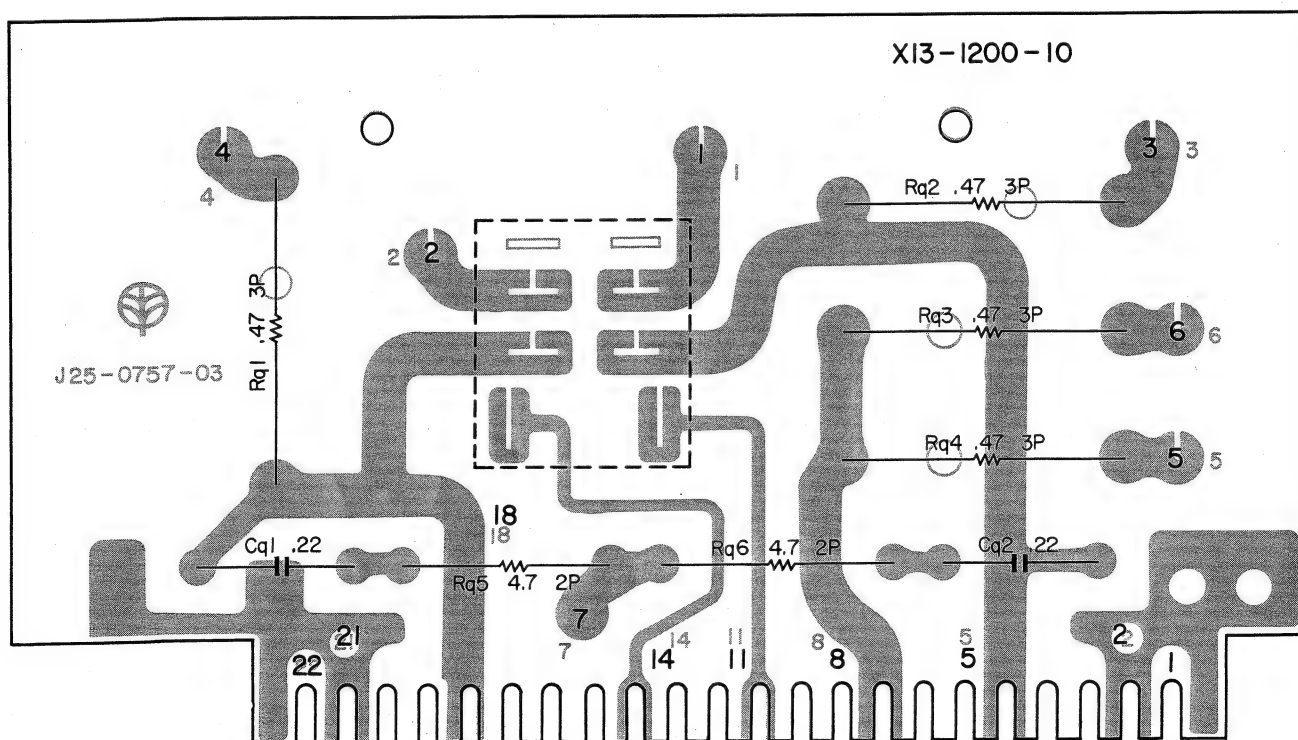
SUB MAIN (X13-1200-10) SECTION

(KR-6200)

SCHEMATIC DIAGRAM



SEALED CIRCUIT ASSEMBLIES-PHANTOM VIEWS



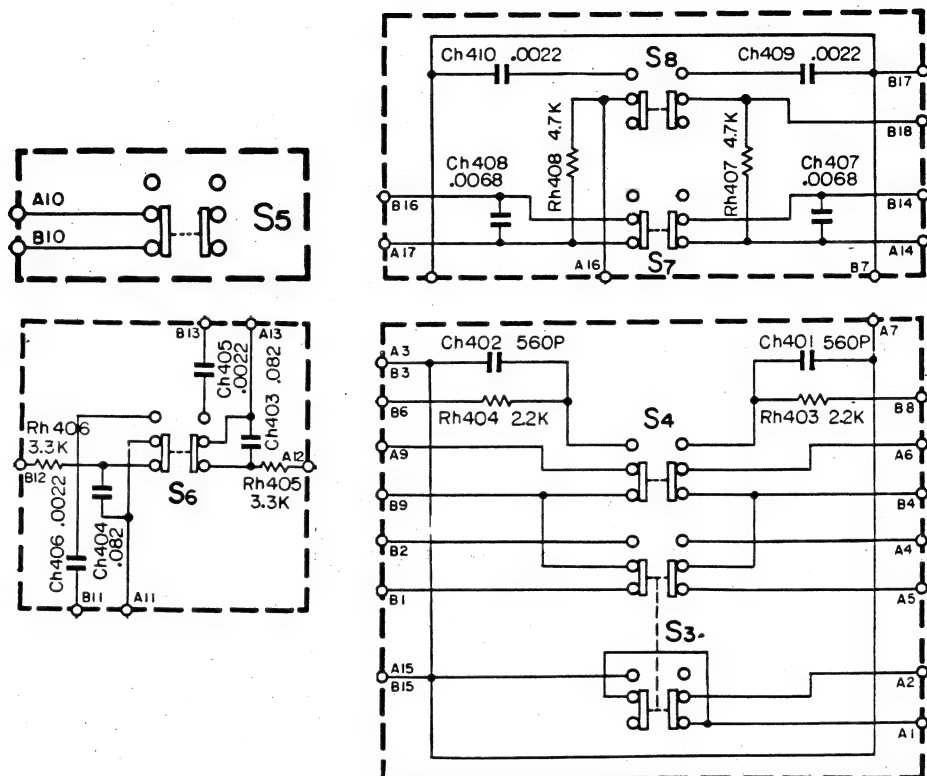
**SUB MAIN (X13-1200-10) SECTION****PARTS DESCRIPTION LIST**

Ref. No.	Parts No.	Description	Remarks
CAPACITOR			
Cq1, 2	CQ93M1H224M	Mylar 0.22 μ F \pm 20%	
RESISTOR			
Rq1 ~4	RN14AB3FR47J	Metal film 0.47 Ω \pm 5% 3W	
Rq5, 6	RN14AB3D4R7J	Metal film 4.7 Ω \pm 5% 2W	
RELAY			
RLq1	S51-2019-05	Relay (LY-2)	UL

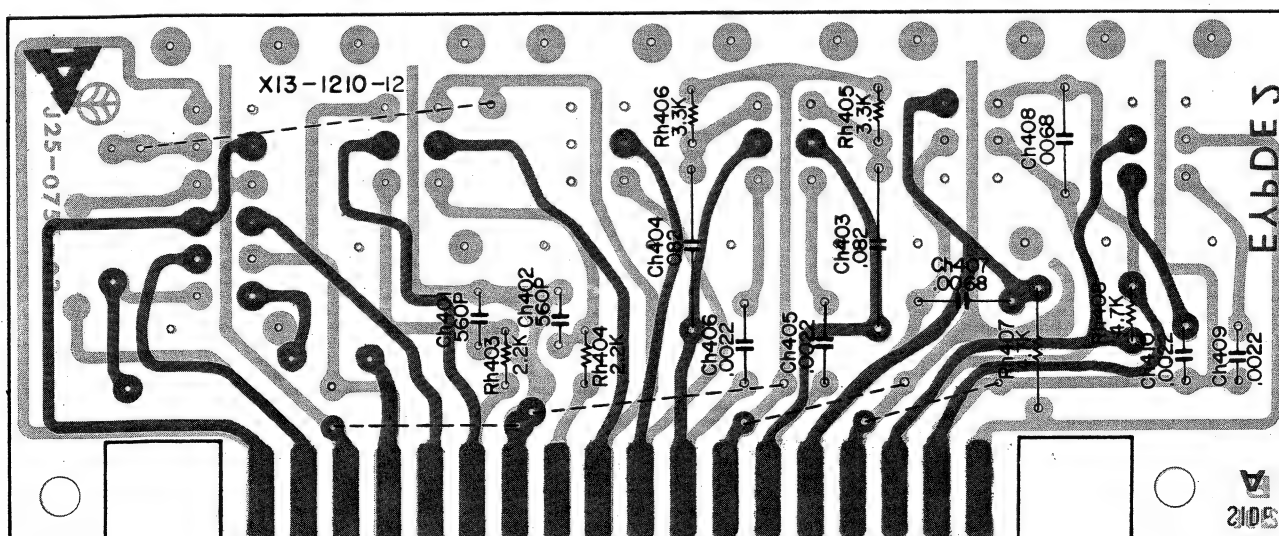
KENWOOD® PUSH SWITCH (X13-1210-12) SECTION

(KR-6200)

SCHEMATIC DIAGRAM



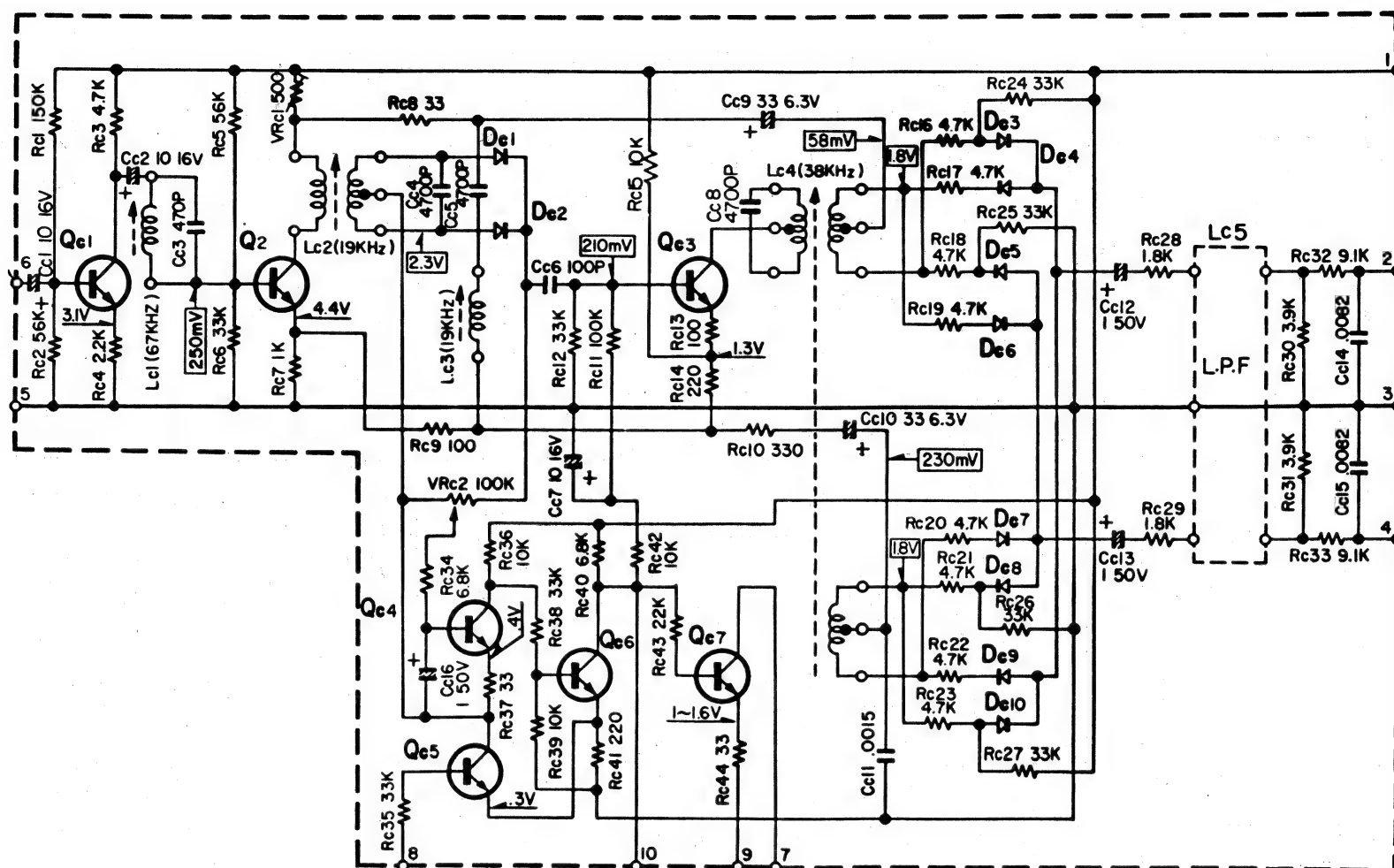
SEALED CIRCUIT ASSEMBLIES-PHANTOM VIEWS



**KENWOOD® PUSH SWITCH (X13-1210-12) SECTION****PARTS DESCRIPTION LIST**

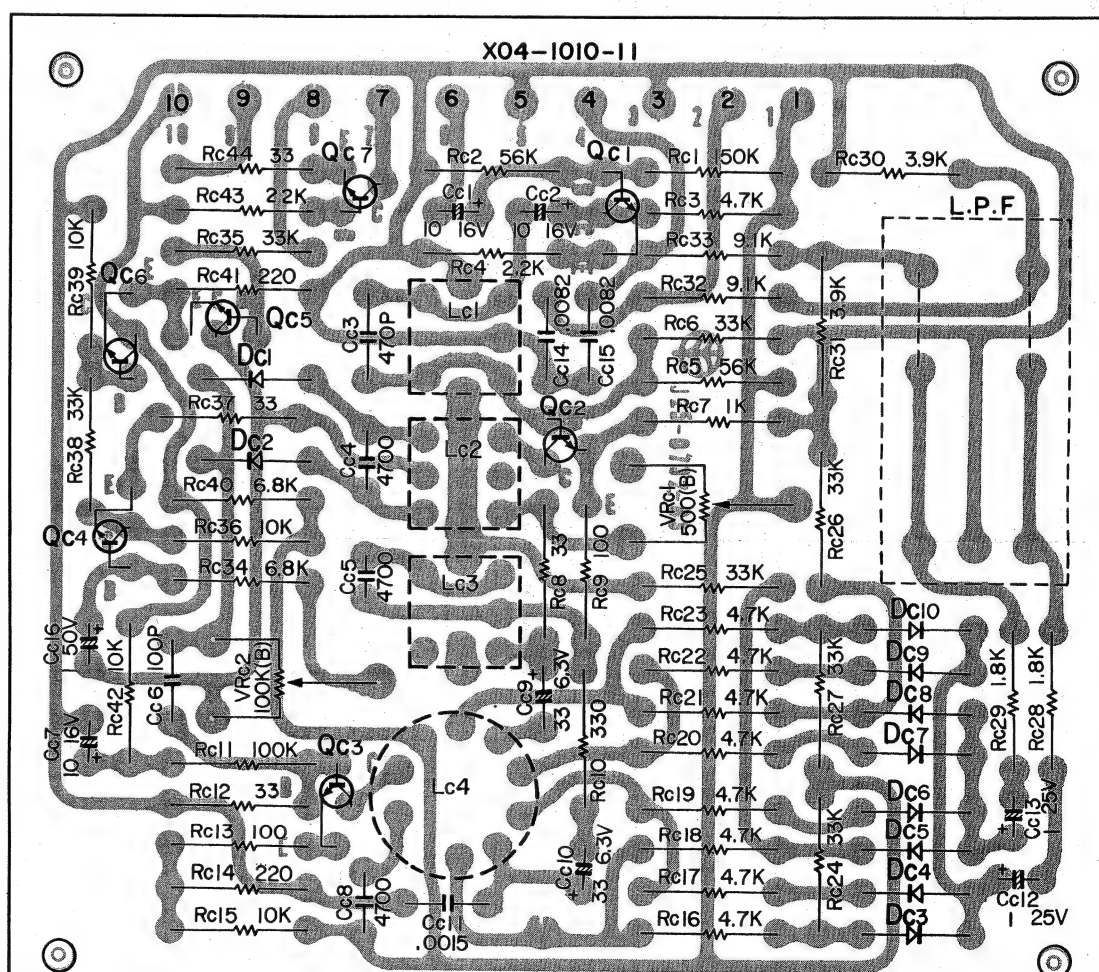
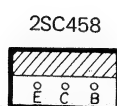
Ref. No.	Parts No.	Description	Remarks
CAPACITOR			
Ch401, 402	CK45D1H561M	Ceramic 560pF $\pm 20\%$	
Ch403, 403	CQ93M1H823K	Mylar 0.082 μ F $\pm 10\%$	
Ch405, 406	CQ93M1H222K	Mylar 0.0022 μ F $\pm 10\%$	
Ch407, 408	CQ93M1H682K	Mylar 0.0068 μ F $\pm 10\%$	
Ch409, 410	CQ93M1H222K	Mylar 0.0022 μ F $\pm 10\%$	
RESISTOR			
Rh403, 404	PD14BY2E222J	Carbon 2.2k Ω $\pm 5\%$ 1/4W	
Rh405, 406	PD14BY2E332J	Carbon 3.3k Ω $\pm 5\%$ 1/4W	
Rh407, 408	PD14BY2E472J	Carbon 4.7k Ω $\pm 5\%$ 1/4W	
SWITCH			
S3	S40-6006-05	Six pushbutton (TAPE-A)	
S4	S40-6006-05	Six pushbutton (TAPE-B)	
S5	S40-6006-05	Six pushbutton (FM MUTING)	
S6	S40-6006-05	Six pushbutton (LOUDNESS)	
S7	S40-6006-05	Six pushbutton (LO-FIL)	
S8	S40-6006-05	Six pushbutton (HI-FIL)	

SCHEMATIC DIAGRAM



SEALED CIRCUIT ASSEMBLIES-PHANTOM VIEWS

BOTTOM VIEW OF TRANSISTOR



Qc1 ~ 3: 2SC458 (D), Qc4 ~ 7: 2SC945 (Q), Dc1 ~ 10: 1N60

PARTS DESCRIPTION LIST

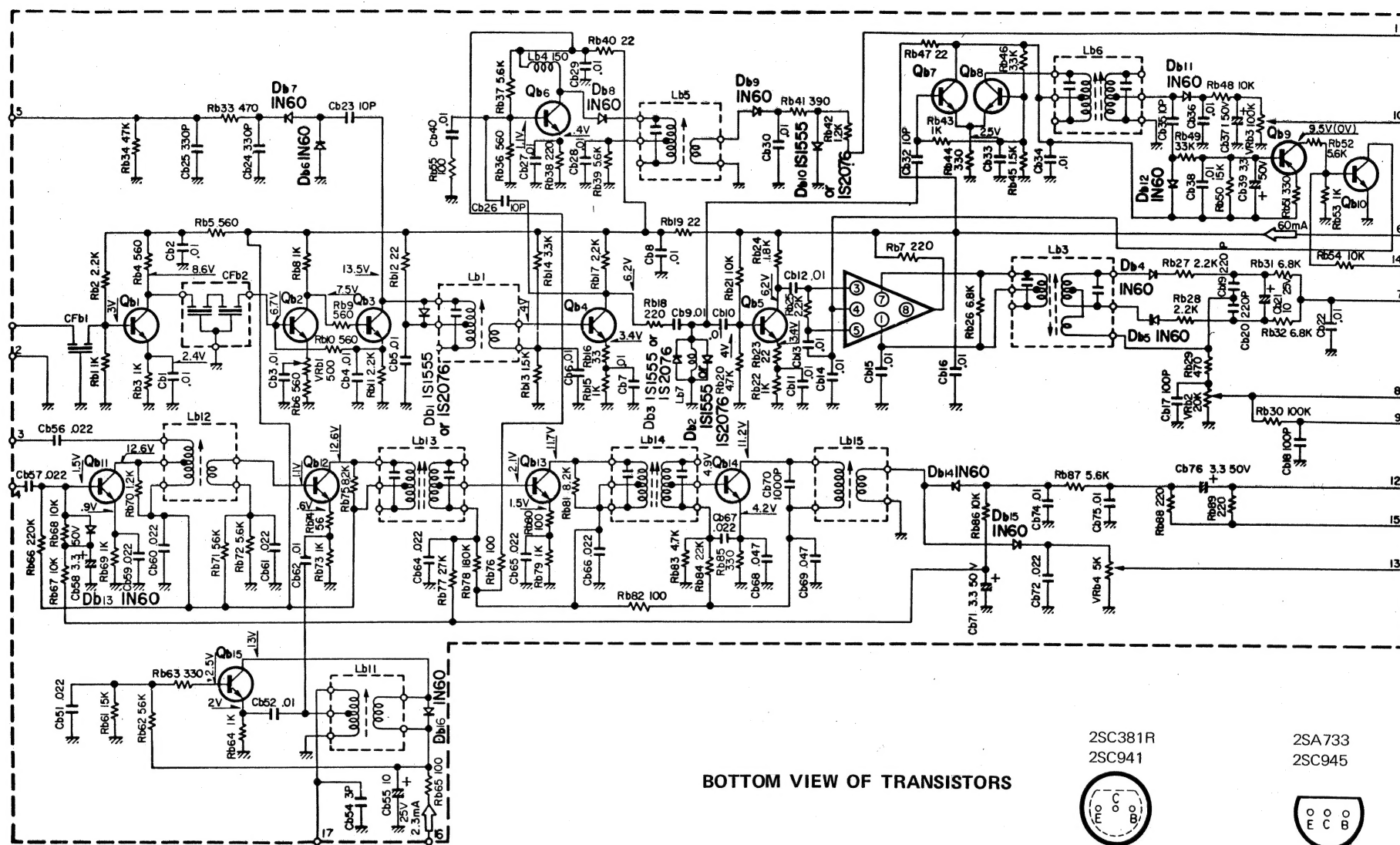
Ref. No.	Parts No.	Description				Remarks
CAPACITOR						
Cc1, 2	CE04W1C100	Electrolytic	10μF	16WV		
Cc3	CQ08S2B471J	Polystyrene	470pF	±5%		
Cc4, 5	CQ09S1H472J(X)	Polystyrene	4700pF	±5%		
Cc6	CC45SL1H101K	Ceramic	100pF	±10%		
Cc7	CE04W1C100	Electrolytic	10μF	16WV		
Cc8	CQ09S1H472J(X)	Polystyrene	4700pF	±5%		
Cc9, 10	CE04W0J330	Electrolytic	33μF	6.3WV		
Cc11	CQ93M1H152J	Mylar	0.0015μF	±5%		
Cc12, 13	CE04W1H010	Electrolytic	1μF	50WV		
Cc14, 15	CQ93M1H822J	Mylar	0.0082μF	±5%		
Cc16	CE04W1H010	Electrolytic	1μF	50WV		
RESISTOR						
Rc1	PD14BY2E154J	Carbon	150kΩ	±5%	1/4W	
Rc2	PD14BY2E563J	Carbon	56kΩ	±5%	1/4W	
Rc3	PD14BY2E472J	Carbon	4.7kΩ	±5%	1/4W	
Rc4	PD14BY2E222J	Carbon	2.2kΩ	±5%	1/4W	
Rc5	PD14BY2E563J	Carbon	56kΩ	±5%	1/4W	
Rc6	PD14BY2E333J	Carbon	33kΩ	±5%	1/4W	
Rc7	PD14BY2E102J	Carbon	1kΩ	±5%	1/4W	
Rc8	PD14BY2E330J	Carbon	33Ω	±5%	1/4W	
Rc9	PD14BY2E101J	Carbon	100Ω	±5%	1/4W	
Rc10	PD14BY2E331J	Carbon	330Ω	±5%	1/4W	
Rc11	PD14BY2E104J	Carbon	100kΩ	±5%	1/4W	
Rc12	PD14BY2E333J	Carbon	33kΩ	±5%	1/4W	
Rc13	PD14BY2E101J	Carbon	100Ω	±5%	1/4W	
Rc14	PD14BY2E221J	Carbon	220Ω	±5%	1/4W	
Rc15	PD14BY2E103J	Carbon	10kΩ	±5%	1/4W	
Rc16 ~ 23	PD14BY2E472J	Carbon	4.7kΩ	±5%	1/4W	
Rc24 ~ 27	PD14BY2E333J	Carbon	33kΩ	±5%	1/4W	
Rc28, 29	PD14BY2E182J	Carbon	1.8kΩ	±5%	1/4W	
Rc30, 31	PD14BY2E392J	Carbon	3.9kΩ	±5%	1/4W	
Rc32, 33	PD14BY2E912J	Carbon	9.1kΩ	±5%	1/4W	
Rc34	PD14BY2E682J	Carbon	6.8kΩ	±5%	1/4W	
Rc35	PD14BY2E333J	Carbon	33kΩ	±5%	1/4W	
Rc36	PD14BY2E103J	Carbon	10kΩ	±5%	1/4W	
Rc37	PD14BY2E330J	Carbon	33Ω	±5%	1/4W	
Rc38	PD14BY2E333J	Carbon	33kΩ	±5%	1/4W	
Rc39	PD14BY2E103J	Carbon	10kΩ	±5%	1/4W	
Rc40	PD14BY2E682J	Carbon	6.8kΩ	±5%	1/4W	
Rc41	PD14BY2E221J	Carbon	220Ω	±5%	1/4W	
Rc42	PD14BY2E103J	Carbon	10kΩ	±5%	1/4W	
Rc43	PD14BY2E223J	Carbon	22kΩ	±5%	1/4W	
Rc44	PD14BY2E330J	Carbon	33Ω	±5%	1/4W	
SEMICONDUCTOR						
Qc1 ~ 3		2SC458 (D)				
Qc4 ~ 7		2SC945 (Q)				
Dc1 ~ 10		1N60				
COIL/FILTER						
Lc1	L35-0050-05	MPX coil				
Lc2	L35-0044-05	MPX coil				
Lc3	L35-0054-05	MPX coil				
Lc4	L35-0053-05	MPX coil				
Lc5	L79-0014-05	Low pass filter				
POTENTIOMETER						
VRc1	R12-0047-05	pc trimmer 500Ω (B) SEPARATION				
VRc2	R12-5019-05	pc trimmer 100kΩ (B)				

PARTS DESCRIPTION LIST

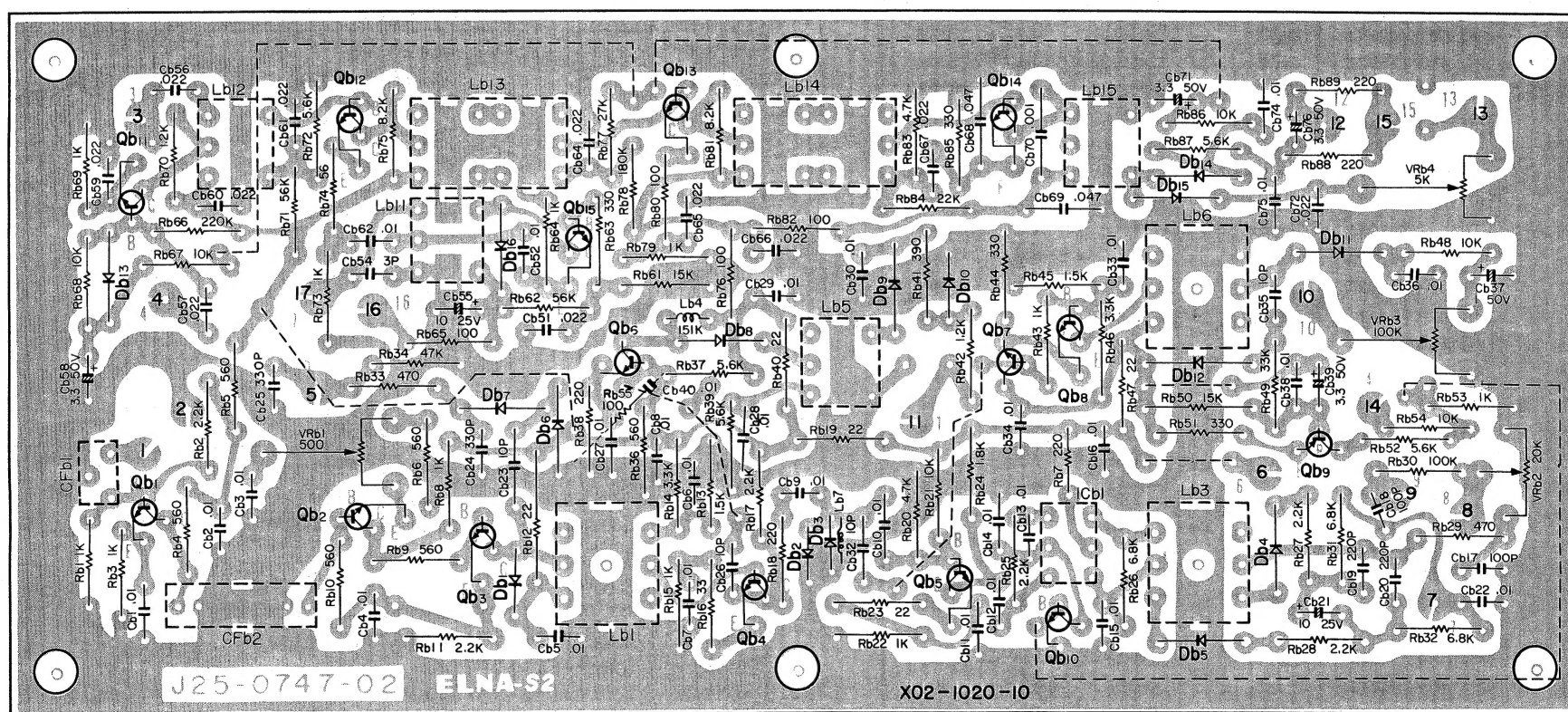
Ref. No.	Parts No.	Description	Re- marks
CAPACITOR			
Cb1~3	CK45F1H103Z	Ceramic 0.01μF +80%, -20%	
Cb4	CQ93M1H103K	Mylar 0.01μF ±10%	
Cb5~16	CK45F1H103Z	Ceramic 0.01μF +80%, -20%	
Cb17, 18	CC45SL1H101K	Ceramic 100pF ±10%	
Cb19, 20	CC45SL1H221K	Ceramic 220pF ±10%	
Cb21	CE04W1E100	Electrolytic 10μF 25WV	
Cb22	CK45F1H103Z	Ceramic 0.01μF +80%, -20%	
Cb23	CC45SL1H100D	Ceramic 10pF ±0.5pF	
Cb24, 25	CC45SL1H331K	Ceramic 330pF ±10%	
Cb26	CC45SL1H100D	Ceramic 10pF ±0.5pF	
Cb27~30	CK45F1H103Z	Ceramic 0.01μF +80%, -20%	
Cb32	CC45SL1H100D	Ceramic 10pF ±0.5pF	
Cb33, 34	CK45F1H103Z	Ceramic 0.01μF +80%, -20%	
Cb35	CC45SL1H100D	Ceramic 10pF ±0.5pF	
Cb36	CK45F1H103Z	Ceramic 0.01μF +80%, -20%	
Cb37	CE04W1H010	Electrolytic 1μF 50WV	
Cb38	CK45F1H103Z	Ceramic 0.01μF +80%, -20%	
Cb39	CE04W1H3R3	Electrolytic 3.3μF 50WV	
Cb40	CK45F1H103Z	Ceramic 0.01μF +80%, -20%	
Cb51	CK45F1H223Z	Ceramic 0.022μF +80%, -20%	
Cb52	CQ93M1H103K	Mylar 0.01μF ±10%	
Cb54	CC45SL1H030C	Ceramic 3pF ±0.25pF	
Cb55	CE04W1E100	Electrolytic 10μF 25WV	
Cb56, 57	CK45F1H223Z	Ceramic 0.022μF +80%, -20%	
Cb58	CE04W1H3R3	Electrolytic 3.3μF 50WV	
Cb59~61	CK45F1H223Z	Ceramic 0.022μF +80%, -20%	
Cb62	CQ93M1H103K	Mylar 0.01μF ±10%	
Cb64~67	CK45F1H223Z	Ceramic 0.022μF +80%, -20%	
Cb68, 69	CK45F1H473Z	Ceramic 0.047μF +80%, -20%	
Cb70	CM93D1H102J(Z)	Mica 1000pF ±5%	
Cb71	CE04W1H3R3	Electrolytic 3.3μF 50WV	
Cb72	CK45F1H223Z	Ceramic 0.022μF +80%, -20%	
Cb74, 75	CQ93M1H103K	Mylar 0.01μF ±10%	
Cb76	CE04W1H3R3	Electrolytic 3.3μF 50WV	
RESISTOR			
Rb1	PD14BY2B102J	Carbon 1kΩ ±5% 1/8W	
Rb2	PD14BY2B222J	Carbon 2.2kΩ ±5% 1/8W	
Rb3	PD14BY2B102J	Carbon 1kΩ ±5% 1/8W	
Rb4~6	PD14BY2B561J	Carbon 560Ω ±5% 1/8W	
Rb7	PD14BY2B221J	Carbon 220Ω ±5% 1/8W	
Rb8	PD14BY2B102J	Carbon 1kΩ ±5% 1/8W	
Rb9, 10	PD14BY2B561J	Carbon 560Ω ±5% 1/8W	
Rb11	PD14BY2B222J	Carbon 2.2kΩ ±5% 1/8W	
Rb12	PD14BY2B220J	Carbon 22Ω ±5% 1/8W	
Rb13	PD14BY2B152J	Carbon 1.5kΩ ±5% 1/8W	
Rb14	PD14BY2B332J	Carbon 3.3kΩ ±5% 1/8W	
Rb15	PD14BY2B102J	Carbon 1kΩ ±5% 1/8W	
Rb16	PD14BY2B330J	Carbon 33Ω ±5% 1/8W	
Rb17	PD14BY2B222J	Carbon 2.2kΩ ±5% 1/8W	
Rb18	PD14BY2B221J	Carbon 220Ω ±5% 1/8W	
Rb19	PD14BY2B220J	Carbon 22Ω ±5% 1/8W	
Rb20	PD14BY2B472J	Carbon 4.7kΩ ±5% 1/8W	
Rb21	PD14BY2B103J	Carbon 10kΩ ±5% 1/8W	
Rb22	PD14BY2B102J	Carbon 1kΩ ±5% 1/8W	
Rb23	PD14BY2B220J	Carbon 22Ω ±5% 1/8W	
Rb24	PD14BY2B182J	Carbon 1.8kΩ ±5% 1/8W	
Rb25	PD14BY2B222J	Carbon 2.2kΩ ±5% 1/8W	
Rb26	PD14BY2B682J	Carbon 6.8kΩ ±5% 1/8W	
Rb27, 28	PD14BY2B222J	Carbon 2.2kΩ ±5% 1/8W	
Rb29	PD14BY2B471J	Carbon 470Ω ±5% 1/8W	
Rb30	PD14BY2B104J	Carbon 100kΩ ±5% 1/8W	
Rb31, 32	PD14BY2B682J	Carbon 6.8kΩ ±5% 1/8W	
Rb33	PD14BY2B471J	Carbon 470Ω ±5% 1/8W	
Rb34	PD14BY2B473J	Carbon 47kΩ ±5% 1/8W	
Rb36	PD14BY2B561J	Carbon 560Ω ±5% 1/8W	
Rb37	PD14BY2B562J	Carbon 5.6kΩ ±5% 1/8W	
Rb38	PD14BY2B221J	Carbon 220Ω ±5% 1/8W	
Rb39	PD14BY2B562J	Carbon 5.6kΩ ±5% 1/8W	
Rb40	PD14BY2B220J	Carbon 22Ω ±5% 1/8W	
Rb41	PD14BY2B391J	Carbon 390Ω ±5% 1/8W	
Rb42	PD14BY2B122J	Carbon 1.2kΩ ±5% 1/8W	

Ref. No.	Parts No.	Description	Re- marks
Rb43	PD14BY2B102J	Carbon 1kΩ ±5% 1/8W	
Rb44	PD14BY2B331J	Carbon 330Ω ±5% 1/8W	
Rb45	PD14BY2B152J	Carbon 1.5kΩ ±5% 1/8W	
Rb46	PD14BY2B332J	Carbon 3.3kΩ ±5% 1/8W	
Rb47	PD14BY2B220J	Carbon 22Ω ±5% 1/8W	
Rb48	PD14BY2B103J	Carbon 10kΩ ±5% 1/8W	
Rb49	PD14BY2B333J	Carbon 33kΩ ±5% 1/8W	
Rb50	PD14BY2B153J	Carbon 15kΩ ±5% 1/8W	
Rb51	PD14BY2B331J	Carbon 330Ω ±5% 1/8W	
Rb52	PD14BY2B562J	Carbon 5.6kΩ ±5% 1/8W	
Rb53	PD14BY2B102J	Carbon 1kΩ ±5% 1/8W	
Rb54	PD14BY2B103J	Carbon 10kΩ ±5% 1/8W	
Rb55	PD14BY2B101J	Carbon 100Ω ±5% 1/8W	
Rb61	PD14BY2B153J	Carbon 15kΩ ±5% 1/8W	
Rb62	PD14BY2B563J	Carbon 56kΩ ±5% 1/8W	
Rb63	PD14BY2B331J	Carbon 330Ω ±5% 1/8W	
Rb64	PD14BY2B102J	Carbon 1kΩ ±5% 1/8W	
Rb65	PD14BY2B101J	Carbon 100Ω ±5% 1/8W	
Rb66	PD14BY2B224J	Carbon 220kΩ ±5% 1/8W	
Rb67, 68	PD14BY2B103J	Carbon 10kΩ ±5% 1/8W	
Rb69	PD14BY2B102J	Carbon 1kΩ ±5% 1/8W	
Rb70	PD14BY2B122J	Carbon 1.2kΩ ±5% 1/8W	
Rb71	PD14BY2B563J	Carbon 56kΩ ±5% 1/8W	
Rb72	PD14BY2B562J	Carbon 5.6kΩ ±5% 1/8W	
Rb73	PD14BY2B102J	Carbon 1kΩ ±5% 1/8W	
Rb74	PD14BY2B560J	Carbon 56Ω ±5% 1/8W	
Rb75	PD14BY2B822J	Carbon 8.2kΩ ±5% 1/8W	
Rb76	PD14BY2B101J	Carbon 100Ω ±5% 1/8W	
Rb77	PD14BY2B273J	Carbon 27kΩ ±5% 1/8W	
Rb78	PD14BY2B184J	Carbon 180kΩ ±5% 1/8W	
Rb79	PD14BY2B102J	Carbon 1kΩ ±5% 1/8W	
Rb80	PD14BY2B101J	Carbon 100Ω ±5% 1/8W	
Rb81	PD14BY2B822J	Carbon 8.2kΩ ±5% 1/8W	
Rb82	PD14BY2B101J	Carbon 100Ω ±5% 1/8W	
Rb83	PD14BY2B472J	Carbon 4.7kΩ ±5% 1/8W	
Rb84	PD14BY2B223J	Carbon 22kΩ ±5% 1/8W	
Rb85	PD14BY2B331J	Carbon 330Ω ±5% 1/8W	
Rb86	PD14BY2B103J	Carbon 10kΩ ±5% 1/8W	
Rb87	PD14BY2B562J	Carbon 5.6kΩ ±5% 1/8W	
Rb88, 89	PD14BY2B221J	Carbon 220Ω ±5% 1/8W	
SEMICONDUCTOR			
Qb1~5		2SC381 (O)	
Qb6~8		2SC381 (R)	
Qb9		2SA733 (Q) or (R)	
Qb10		2SC945 (Q) or (R)	
Qb11		2SC941 (O)	
Qb12		2SC941 (R)	
Qb13		2SC941 (O)	
Qb14, 15		2SC941 (R)	
Db1~3		1S1555 or 1S2076	
Db4~9		1N60	
Db10		1S1555 or 1S2076	
Db11~16		1N60	
ICb1		CS5995 (B)	
TRANS./COIL			
Lb1	L30-0243-05	FM-IFT	
Lb3	L30-0207-15	DISCRIMINATOR coil	
Lb4	L33-0098-05	Ferri-inductor (150μH)	
Lb5	L30-0246-05	Meter coil	
Lb6	L30-0244-05	Trigger coil	
Lb7	L33-0098-05	Ferri-inductor (150μH)	
Lb11	L32-0090-05	AM-OSC coil	
Lb12	L31-0111-05	AM-RF coil	
Lb13, 14	L30-0245-05	AM-IFT	
Lb15	L30-0052-05	AM-IFT	
POTENTIOMETER/FILTER			
VRb1	R12-0047-05	pc trimmer 500Ω (B) BIAS	
VRb2	R12-3014-05	pc trimmer 20kΩ (B) FM-OUT	
VRb3	R12-5019-05	pc trimmer 100kΩ (B) BEACON	
VRb4	R12-2016-05	pc trimmer 5kΩ (B) AM-METER	
CFb1	L72-0010-05	Ceramic filter	
CFb2	L72-0019-05	Ceramic filter	

SCHEMATIC DIAGRAM

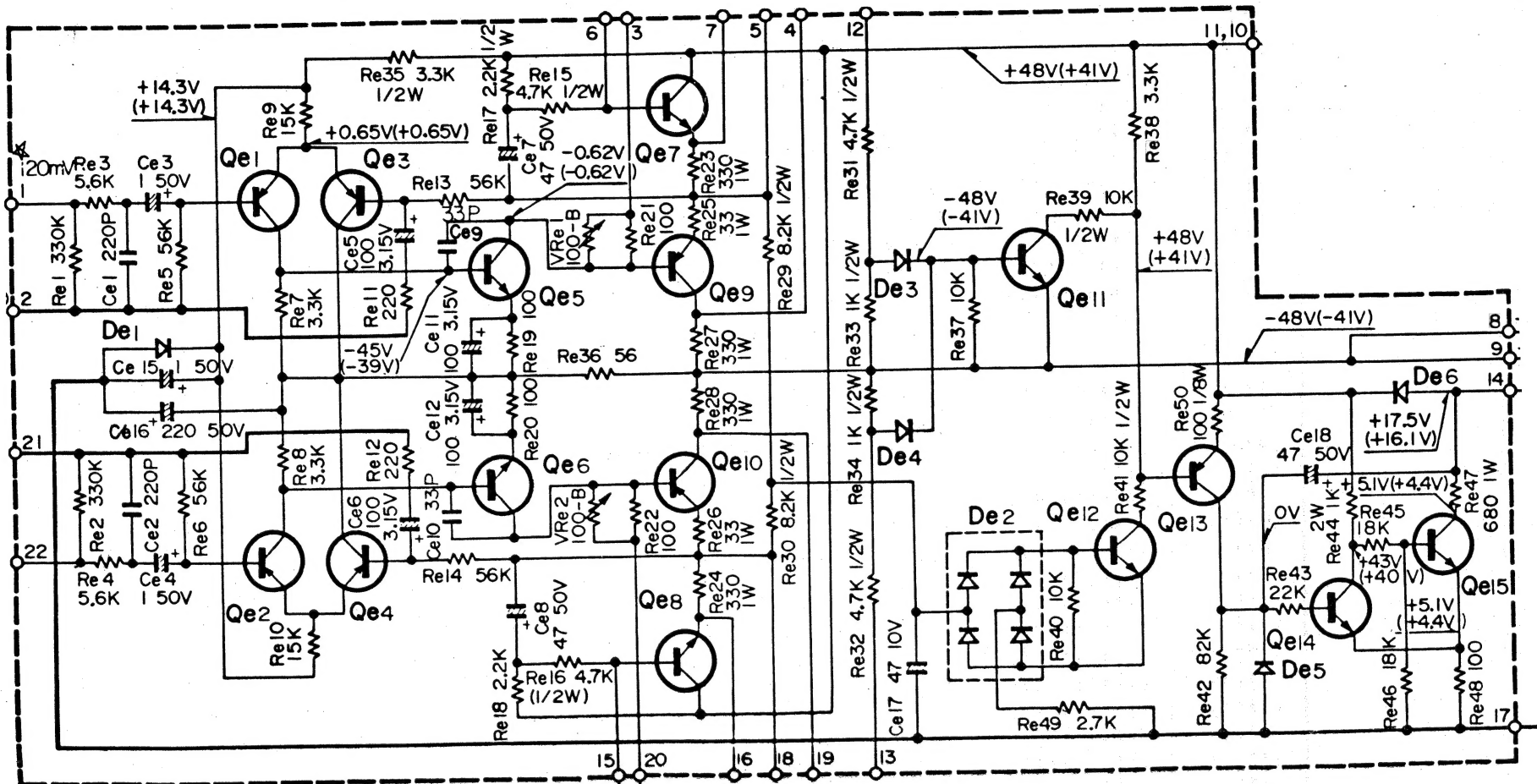


SEALED CIRCUIT ASSEMBLIES-PHANTOM VIEWS

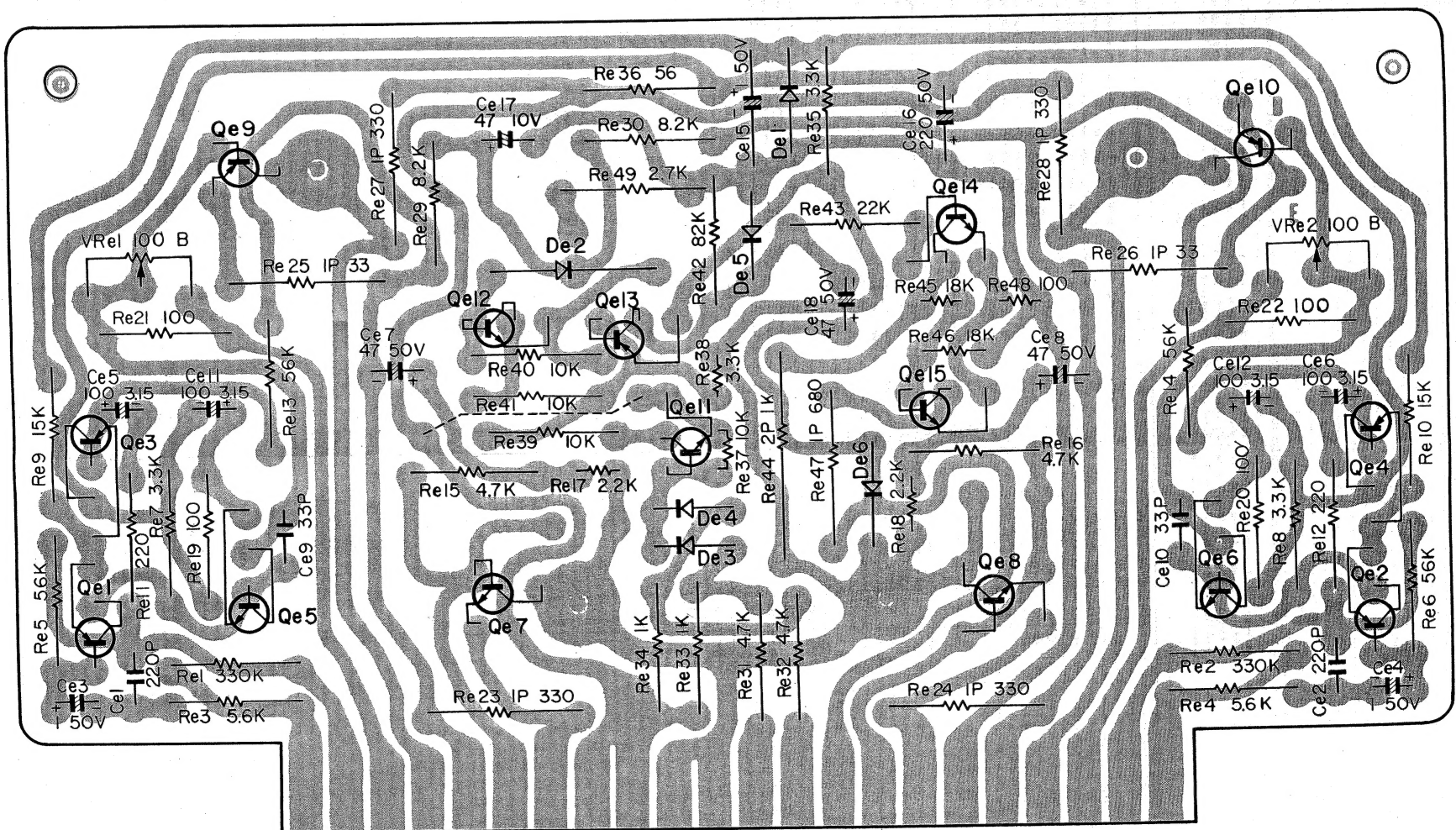


Qb1 ~ 5: 2SC381 (O), Qb6 ~ 8: 2SC381 (R), Qb9: 2SA733 (Q) or (R), Qb10: 2SC945 (Q) or (R), Qb11, 13: 2SC941 (O), Qb12, 14 15: 2SC941 (R), Db1, 2, 3, 10: 1S1555 or 1S2076, Db4 ~ 9, 11 ~ 16: 1N60, Ic1: CS5995 (B)

SCHEMATIC DIAGRAM



SEALED CIRCUIT ASSEMBLIES-PHANTOM VIEWS



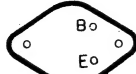
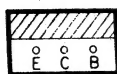
Qe1 ~ 4: 2SA620WL5, Qe5, 6: 2SC983 (Y), Qe7, 8: 2SC1161, Qe9, 10: 2SA653, Qe11: 2SC983 (R), Qe12: 2SC1213A (B), Qe13: 2SA673 (B) or (C),
Qe14, 15: 2SC1213A (B) or (C), De1: YZ-140, De2: S1RB-10, De3, 4: 1S1555, De5, 6: V0-6B

2SA673
2SC983
2SC1213A

2SA653
2SC1161

**BOTTOM VIEW
OF
TRANSISTOR**

2SA620WL



PARTS DESCRIPTION LIST

Ref. No.	Parts No.	Description				Remarks
CAPACITOR						
Ce1, 2	CC45SL1H221K	Ceramic	220pF	±10%		
Ce3, 4	CE04W1H010	Electrolytic	1μF	50WV		
Ce5, 6	CE04W0F101	Electrolytic	100μF	3.15WV		
Ce7, 8	CE04W1H470	Electrolytic	47μF	50WV		
Ce9, 10	CC45SL1H330K	Ceramic	33pF	±10%		
Ce11, 12	CE04W0F101	Electrolytic	100μF	3.15WV		
Ce15	CE04W1H010	Electrolytic	1μF	50WV		
Ce16	CE04W1H221	Electrolytic	1μF	50WV		
Ce17	CE04W1A470(NP)	Electrolytic	47μF	10WV		
Ce18	CE04W1H470	Electrolytic	47μF	50WV		
RESISTOR						
Re1, 2	PD14BY2E334J	Carbon	330kΩ	±5%	1/4W	
Re3, 4	PD14BY2E562J	Carbon	5.6kΩ	±5%	1/4W	
Re5, 6	PD14BY2E563J	Carbon	56kΩ	±5%	1/4W	
Re7, 8	PD14BY2E332J	Carbon	3.3kΩ	±5%	1/4W	
Re9, 10	PD14BY2E153J	Carbon	15kΩ	±5%	1/4W	
Re11, 12	PD14BY2E221J	Carbon	220Ω	±5%	1/4W	
Re13, 14	PD14BY2E563J	Carbon	56kΩ	±5%	1/4W	
Re15, 16	RC05GF2H472K	Carbon	4.7kΩ	±10%	1/2W	
Re17, 18	RC05GF2H222K	Carbon	2.2kΩ	±10%	1/2W	
Re19 ~ 22	PD14BY2E101J	Carbon	100Ω	±5%	1/4W	
Re23, 24	RN14AB3A331K	Metal film	330Ω	±10%	1W	
Re25, 26	RN14AB3A330K	Metal film	33Ω	±10%	1W	
Re27, 28	RN14AB3A331K	Metal film	330Ω	±10%	1W	
Re29, 30	RC05GF2H822K	Carbon	8.2kΩ	±10%	1/2W	
Re31, 32	RC05GF2H472K	Carbon	4.7kΩ	±10%	1/2W	
Re33, 34	RC05GF2H102K	Carbon	1kΩ	±10%	1/2W	
Re35	RC05GF2H332K	Carbon	3.3kΩ	±10%	1/2W	
Re36	PD14BY2E560J	Carbon	56Ω	±5%	1/4W	
Re37	PD14CY2E103J	Carbon	10kΩ	±5%	1/4W	
Re38	PD14CY2E332J	Carbon	3.3kΩ	±5%	1/4W	
Re39	RC05GF2H103K	Carbon	10kΩ	±10%	1/2W	
Re40	PD14BY2E103J	Carbon	10kΩ	±5%	1/4W	
Re41	RC05GF2H103K	Carbon	10kΩ	±10%	1/2W	
Re42	PD14BY2E823J	Carbon	82kΩ	±5%	1/4W	
Re43	PD14BY2E223J	Carbon	22kΩ	±5%	1/4W	
Re44	RN14AB3D102K	Metal film	1kΩ	±10%	2W	
Re45, 46	PD14CY2E183J	Carbon	18kΩ	±5%	1/4W	
Re47	RN14AB3A681K	Metal film	680Ω	±10%	1W	
Re48	PD14CY2E101J	Carbon	100Ω	±5%	1/4W	
Re49	PD14BY2E272J	Carbon	2.7kΩ	±5%	1/4W	
Re50	PD14BY2B101J	Carbon	100Ω	±5%	1/8W	
SEMICONDUCTOR						
Qe1 ~ 4		2SA620WL5				
Qe5, 6		2SC983 (Y)				
Qe7, 8		2SC1161				
Qe9, 10		2SA653				
Qe11		2SC983 (R)				
Qe12		2SC1213A (B)				
Qe13		2SA673 (B) or (C)				
Qe14, 15		2SC1213A (B) or (C)				
De1		YZ-140				
De2		S1RB-10				
De3, 4		1S1555				
De5, 6		V0-6B				
POTENTIOMETER						
VRe1, 2	R12-0048-05	pc trimmer 100Ω (B) BIAS				